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STUDIES ON THE NORMAL HÆMATOLOGY OF WOMEN LIVING IN BENGAL

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(Continued from the previous issue)

PART II

The variations of the different blood constituents in perfectly normal persons under physiological conditions have been observed by various workers, and must be emphasised in any study of the blood.

This physiological variability of the different hæmatological constituents is all the more marked in the case of leucocytes. Although no attempt will be made to give an extensive bibliography on the subject some of the salient facts obtained by the different workers might be mentioned below.

Sabin *et al* (1925) have given the curves of diurnal changes in the red cell, the hæmoglobin and the leucocytic constituents in the normal blood. Turk (1912) has similarly observed the diurnal variations in the leucocytic count. Leucocytosis during and after digestion has been worked out by Pohl (1889), Reider (1892) and Rothacker (1917). Sirenskby (1908) has observed different degrees of leucocytic reaction after different kinds of food; Avezzu and Pozza (1923) have found out a relation between gastric acid secretion and leucocytic reaction; Charteris (1907) has observed the same after fasting. Ellerman and Erlandsen (1911) as well as Becher (1918-19) and Hoekstetter (1910) have observed similar changes after muscular exercise. Schilling has demonstrated marked shift to the left of the immature polymorphs after hard muscular exercise, in some cases of pregnancy and menstruation. For a complete bibliography the reader is referred to the works of Sabin *et al* (1925) and Schilling (1928).

The figures obtained by us in our studies of the leucocyte counts are given below:

I. Total White Blood Corpuscles.

The figures given are per c.mm. as follow:—

TABLE IX

Showing number of total white cells per c.mm. of blood in Indian women

	1st series	2nd series	Males (Basu & Chatterjee, 1934)	Males (Napier & Das Gupta, 1935)
Highest figures	13520	11930	11900	9600
Lowest figures	*3181	*3181	5550	4080
Average figures	7200	6908	7420	6554

*These rather low figures are discussed under Lymphocytosis.

The average of all the cases is 7087. Abnormally high leucocyte counts were obtained in two cases of our 2nd Series and one case of the 1st Series. These were associated with high eosinophilia and therefore the total leucocytic picture cannot be regarded as normal.

The following table shows the number of leucocytes and the total number of eosinophils per cent. in the differential count, in the latter cases.

TABLE X

Showing abnormally high leucocyte counts and their association with eosinophilia

Case number	Total W. B. C.	Eosinophil per cent.
New Series		
XXIV	... 16305	31
LXVI	... 15515	44·5
1st Series		
XXVIII	... 22862	55·5

The salient features of the differential leucocytic picture reveal the following:—

(1) Eosinophils are higher and much exceed the upper normal limits of the European figures.

(2) The average for lymphocytes is higher although it does not exceed the upper normal limit.

(3) The number of immature polymorphs is much higher than the European figures and consequently the ' shift to the left ' is more pronounced in the majority of cases.

(4) As a result of the increase in the number of cells mentioned above the mature segmented polymorphs show a much lower figure.

In our new series we obtained a greater number of cases showing the pronounced ' shift to the left ' of the neutrophil polymorphs, than in our 1st Series.

TABLE XI

Showing average differential leucocyte counts in normal persons

Name of observation	Eosinophils			Polymorphs				Lymphocytes			
	Basophils	Segmented	Non-segmented	Myelocyte	Juvenile	Stab	Segment	Old	New	Monocyte	Irritation cell
Normal Males (Basu & Chatterjee, 1934)	0·5	7	0	0	0·5	10	42	29	8	3	—
Females 1st series	0·3	9·4	0	0	0·6	11·9	41·7	29·8	1·6	3·4	—
Females 2nd series (New)	0·4	7	1	0	0·5	14	42	30·5	·5	4	—
Average of both series	0·3	9	0	0	0·5	13	42	30	1·5	3·5	—
Average Schilling's	0·5	3	0	0	0	4	67	23	—	6	—
Figures of normal Range	0-1	2-4	0	0	0-1	3-5	54-72	21-35	—	4-8	—

II. Differential Count of Leucocytes:—

The classification of Schilling and the nomenclature used by him have been followed. The neutrophils have been subdivided according to their age and morphology into the following groups *viz.*, myelocytes, juveniles, stabs or band forms and segments.

The lymphocytes have been subdivided into old and new forms, the eosinophils into the segmented and non-segmented forms.

200 cells were counted in each case from Geimsa stained slides, the films being drawn by coverslips.

The average count of normal males living in Bengal as obtained by us (Basu & Chatterjee, 1934) is given together with the average of our present female cases. (Table XI).

This runs somewhat parallel with the figures shown by the sedimentation rate.

We find that in only 22% of our female cases the number of immature polymorphs coincides with the normal European figure of 9% or less. The great majority or 78% of our apparently normal female subjects showed a figure higher than this as is shown in Table XII.

TABLE XII

Number of cases showing 9% or less of immature polymorphs

	Actual No. of cases	No. of cases per cent.
1st Series	... 21	26
2nd Series	... 9	17
Number of both series combined	... 30	22

Somewhat similar figures were obtained by Basu & Chatterjee (1934) in the normal males in whom in 65% of persons examined the number of immature polymorphs was more than 9%.

The very great difficulty lies in determining the limit of normal range of variations, in other words the limit of shift to the left which we may consider as normal. It can be repeated again that the figures of other countries will not be of much practical use. In the study of the very important associated abnormalities, presented below we are being led to the following conclusion with regard to this question; that for practical purposes the polynuclear blood pictures in females of this country may be regarded as normal when the relative proportions of mature to immature polymorphs is 3:1 or is above this figure.

But then again, the difficult question may be asked, "should we regard the person and his or her blood picture as abnormal if the shift of immature polymorphs is more pronounced, the ratio of mature to immature neutrophils being less than 3:1?" In other words the question might be rather simplified as "what is a normal differential leucocytic picture?"

The answer to the last question can hardly be furnished by giving an arbitrary figure especially where there are innumerable chances of bacterial, protozoal and helminthic infections, although these might not be causing any symptoms.

The ideal, perfectly healthy normal, specially in the tropics, is a somewhat rare person. Consequently we have got to give this particular term a somewhat wide latitude. We can regard a person as normal if he or she is not suffering from any visible ailment and if he or she is performing his or her normal avocations and duties of life without trouble or discomfort.

Therefore should we consider a blood picture as abnormal if the shift to the left of the immature nutrophils is above the local standard average; that is, if the proportion of mature to immature polymorphs is less than 3:1? Possibly we can give the answer in the affirmative if we take into account the other associated facts. These latter may be put down as follows:—

(1) high sedimentation rate.

(2) high eosinophilia.

(3) high lymphocytosis.

(4) markedly subnormal readings in other hæmatological findings.

(5) Any other physiological or pathological abnormality, *e.g.*, menstruation, pregnancy, catarrh, etc.

In our new series we find in 21 persons or 38% a marked shift to the left in which the ratio of the segmented to non-segmented cells is less than 3:1.

All of these cases are associated with one or other of the above abnormalities either alone or in combination, with the exception of high lymphocytosis which is invariably associated with a third abnormality. (All the above statements will be corroborated in the Appendix).

Menstruation and Shift to the Left

In spite of our advice to the contrary two cases got themselves examined during their menstrual period. There were also 4 more cases whose blood was taken when their menstruation was imminent. All these cases showed a moderate shift to the left.

Our cases, however, were too few in number and this question ought to be further studied in this country.

Eosinophilia

One of the most remarkable features of our differential blood pictures is the increase of eosinophils.

If we take the usual text-book figures of 6% eosinophils as the upper limit of normal then 50% of our total cases would show a count above this figure.

If we take 9·6% (which was the average of our 1st series) as the upper limit then 25% of our total cases would show counts about these figures. The analysis would be shown by the following table

Table XIII

Showing the distribution of eosinophils.

	Cases with 6% or less eosinophilis		Cases with 10% or less eosinophilis	
1st Series				
Age 16 to 55 years	35		49	
Av. age 25·4 years		43%		61%
2nd Series				
Age 16 to 23 years	32		41	
Av. age 17·6 years		59%		75%
Total cases ...	67		90	
		50%		67%

In trying to find out the significance of eosinophilia we can discern 6 types of cases in our 44 cases who have more than 10% eosinophils. These are:

(a) Associated with high sedimentation rate; 11 cases or 25%.

(b) Associated with shift to the left of polymorphs; 13 cases or 29%.

(c) Associated with high lymphocytosis; 8 cases or 18%.

(d) Associated with high leucocyte count; 8 cases or 18%.

(e) Combination of more than one of the above; a, b and c—4 cases, a and b—6 cases, b and c—1 case.

(f) Associated with no other abnormality of blood; 15 cases or 34%.

Some of the commonest examples of eosinophilia may be stated to be the following:—

(1) Filarial infection which is more or less associated with affection of some parts of the lymphatic system.

(2) Allergic conditions associated with marked increase of the total leucocytes.

(3) Recovery from an infection associated with a gradually diminishing shift of the polymorphs and increase of mononuclears.

(4) Intestinal parasites. A future study of the above pathological conditions both from the hæmatological as well as from other standpoints, might reveal whether there is any relation between these and the previously stated eosinophilic states or whether in some cases again, the high eosinophilia is a familial condition depending on hereditary factors.

Lymphocytosis

Altogether 17 cases showed a relative lymphocyte count of 40% or more. These cases were again associated with other abnormalities as follows:—

(a) Neutrophilic shift to the left—8 cases.

(b) High sedimentation rate—7 cases.

(c) Eosinophilia—8 cases.

(d) Leucopenia with lymphocytosis. These cases showed what may be called low figure for total leucocytes numbering 3181.

There was a marked diminution of neutrophils in this last group and consequently the lymphocytosis was more relative than absolute; there was no shift to the left of the polymorphs, any mononuclear increase, nor any other hæmatological abnormality.

The absence of mononuclear increase or a shift to the left of neutrophils as well as that of fever or spleen would preclude kala-azar in these cases.

Therefore do such leucopenic blood pictures with absence of shift to the left and increase of lymphocytes, signify a pre-tubercular stage? The question requires investigations and is worth serious study.

Conclusion

1. Data about the normal hæmatology of women living in Bengal have been given from 134 cases.

2. Marked abnormalities have been noted in many respects.

3. Endeavour has been made to explain the more pronounced amongst these and suggestions have been given for new work in this field.

4. Suggestions have also been put forward to keep an open mind in doing hæmatological work, especially in the tropics.

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APPENDIX

Showing other associated blood changes in subjects with pronounced polymorphonuclear shift

	Case No.	Sedimentation	Eosinophil per cent.	Segments / Non-segments Neucrophilic ratio	Lymphocytes per cent.	Last date of last Menstruation.	Other abnormalities in blood.
Cases with high Sedimentation Rates	V	40	6·5	44·5/18·5	28·5	15 days back	nil
	VI	47	5·5	36/22	31·0	9 ,, ,,	,,
	XXXV	46	5	41/26	23	5 ,, ,,	,,
	XLVIII	45	1·5	43/23·5	24·5	8 ,, ,,	,,
Cases with Eosinophilia	XXVIII	30	19	32/14·5	31	10 ,, ,,	,,
	XXXIX	15	12	36·5/19·5	29	,, ,, ,,	,,
	XLII	32	15·5	37/23	24	,, ,, ,,	,,
Cases with imminent menstruation, or menstruation just passing off	XVII	14	8	38·5/21·5	31	2nd day of M.	,,
	XXVII	30	3	44/17·5	33·5	2nd day of M.	,,
	XLIV	20	2·5	39·5/25·5	28	24 day of M.	,,
	XLVI	15	5	39·5/15	36	,, ,, ,,	,,
	XLIX	25	9	33/15	24·5	,, ,, ,,	,,
	L	25	2·5	36/32·5	26	25 ,, ,,	,,
Cases with more than one of the above abnormalities	XXI	35	17·5	20/10	47	18 ,, ,,	,,
	XXIV	49	31	26/10	28·5	21 ,, ,,	,,
	XXX	35	4·5	33·5/16·5	42	10 ,, ,,	,,
	XXXVI	63	5	34/18	40	12 ,, ,,	,,
	LI	56	52·5	20·5/8·5	21·5	17 ,, ,,	,,
Cases with low or abnormal figures in other items of blood	IV	21	6·5	44·5/18·5	28·5	15 ,, ,,	Lowest figure for corpuscular volume.
	XXVI	31	2	46·5/18	31	10 ,, ,,	Lowest figure for Hæmoglobin viz. 12·2.
	VII	30	9·5	45/20·5	21	15 ,, ,,	Leucocytosis and catarrhal condition.

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EVOLUTION OF THE TONSILS

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Seccombe Hett's theory is that the tonsil originated in the evolution of the vertebrates from the second gill-cleft; that it appears in the mammals at first as a simple pocket, then grows more complicated. He realized that the space above the central mass which had until his time been known as the supratonsillar fossa "is within the capsule and surrounded by the lymphoid tissue of the latter and is never extratonsillar." Charles Darwin in his ' Origin of Species ' pointed out that it is possible to trace the development of the animal forms through the geological periods. It can be easily done in the bony parts because in the slow formation of the rocks, a series of skeletons more or less complete has been preserved through innumerable centuries. What chance has Hett to establish his hypothesis, that "it is easily seen that they form a series and that the tonsil of man can be regarded as an evolution of the simpler forms?" The following passages are quoted from his article:

"*Tubular Tonsils*:—The most primitive type of tonsil is a tubular diverticulum from the pharynx lined with epithelium and surrounded by lymphoid tissue. This is seen in the tiger and leopard. This tube passes forwards with a slightly curved course parallel to the tongue. The tube is only separated from the buccal cavity by the mucous membrane, through which the outline can be seen. It is lined by epithelium continuous with that of the pharynx, and this is surrounded by lymphoid tissue. The lymphoid tissue reaches nearly to the outlet of the tonsillar tube, except at the upper margin, where it falls a little short of it. In the cats and lynxes the tonsil is similar, but lymphoid tissue protrudes from the opening at the lower margin of the outlet.

" *Pocket-shaped tonsil*:—The lemur has a tonsil which is pocket-shaped. In many monkeys, such as the marmosets, gibbons and cercopithecus, the tube has become shortened so that the tonsillar diverticulum is pocket-shaped. It is more or less surrounded by lymphoid tissue but the lower or inner lip of the pocket tends to have a greater deposit of lymphoid tissue than the outer wall. The pocket shaped tonsil with a varying amount of lymphoid tissue on the inner and outer walls is found through a wide range of mammals, including the above monkeys, the opossums, wombat, Tasmanian devil, kangaroo, etc.

"*Solid projecting tonsils with recess above*":—A type of tonsils found in the dog, bear, badger, kinkajou, is a solid projecting tonsil. This is an evolution of the last form, as is seen by cutting sections at right angles to the long axis of the tonsils. The lymphoid tissue is then seen to extend for some distance round the recess above the protruding portion. The form and direction of the diverticulum around which the tonsil is developed is important. In the projecting solid tonsil there is apparently no such space but the pocket found above the tonsil represents it and in some cases, whether the tonsil is of the form of hyena and dog, of the seal, tiger, or monkey, this diverticulum becomes apparently supratonsillar or obviously intratonsillar. Hett proceeds to give convincing proof that this matter, the relation of the mass and the recess above it in the various other forms of mammals, is strictly analogous to the relation between the main lymphoid mass of the human tonsil and the recess above it which was originally called by His supratonsillar fossa but which Hett concluded is within the capsule and surrounded by the lymphoid tissue of the latter and is never extratonsillar. Furthermore he said it is reasonable to suppose that the supratonsillar fossa of man represents the cavity of the original diverticulum around which the tonsil develops. Hett's theory may be summarised as follows:—that the tonsil probably evolved from a second gill-cleft, originally, as in forms such as that of the leopard, a long pocket with shallow lining and the more complex forms as seen in the gorilla and the bonnet monkey, showing the reduplication of the pocket and the development of irregular masses begins. Parallel to this claim in the tonsil itself is the appearance of the plicæ which in the monkey has

developed to a point where they foreshadow the more complicated plicæ found in man. It should be noted that the existence in certain rare individuals of ducks leading from the tonsil to the surface of the throat tend to bear out the assertion that man's tonsil is remnant, survival or rudimentary vestige from the second gill-cleft. The types of human tonsils found in different individuals, or in the same individual at different ages are (1) the simple pocket form characteristic of the six months' embryo; (2) the hypertrophied, sometimes pedunculated, tonsil of infancy, consisting of a large mass with a small pocket above; (3) the buried tonsil, embedded in the wall of the pharynx and characteristic of middle age, and (4) the atrophied tonsil usually found in the old age (the second childhood of the tonsil) which again resembles the simple pocketed form.

In the 24·4 mm. embryo model the picture of the palate formation is fairly well outlined. The lengthening of the second branchial cleft dorsalward, joins directly on to the structures which later make up the tonsil." This throat-shelf has lost its primitive form of a cleft, and has therefore become a more roomy space. By this enlargement of the cavity, the side wall, and with it the tonsil bay, has grown considerably in height. At the same time, the bay is more sharply outlined than before. That is because both palatine arches, showing the shape of two sharp folds, are developing before and behind. The posterior arch of the palate shows a lengthening of the palatine palate, extending backwards and downwards. The front arch forms almost a right angle, outgoing from the back one. The tonsil pocket between those two folds is triangular in shape, the anterior and posterior sides of it being formed by the two palatine arches. The under wall is not far away from the submaxillary gland, and is noticeably curved through the tonsil tubercle. Along the lateral wall of the tonsil bay, there runs, hardly noticeable at that stage, a fold which comes out from the highest point of the tonsil tubercle and divides almost the whole length of the tonsil pocket. The direction of this is such that if one imagines the palate as being stretched, it would form quite a large angle. This fold, important for the development of the tonsil, is called the plica intratonsillaris. The tonsil bay in this case of the 31 mm. embryo has grown larger, especially in front and downwards. In front it has pushed itself above the palatine arches, so that the backward part has become undermined, stretched backward as a thin and sharp fold. The enlargement of the tonsil pocket downwards has extended laterally from the tonsil tubercle, and has brought about a change in its appearance. It is flattened antero-internally, and is therefore changed into quite a thin fold. This fold goes towards the front and blends with the first-mentioned fold, which has arisen out of the further palatine arch, forming with it a reduplication that binds it together, thus forming a mesial wall towards the tonsil bay which has remained open until then. This is identical with the flap-shaped fold described by Kolliker, and called by His, " plica triangularis." It is formed mainly by the change in the tonsil tubercle. The upper part of the front, and also the whole posterior palatine arch, has a less clear outline, so that the tonsil pocket backwards and upwards forms an almost imperceptible union with the throat wall.

The intratonsillar fold is also but faintly, noticeable; only the under part, where it leaves the plica triangularis at approximately a right angle, is more definitely outlined than the rest, in that it cuts into the lower wall of the tonsil bay, making the bay double-peaked.

In the 36 mm. and 50 mm. embryos, the same condition as described above is to be seen, except that the intratonsillar fold has developed. In the 70 mm. embryo, the development of the fold has increased to the point where it clearly shows a parting of the tonsil bay into two divisions.

The fold runs above and backwards from near the centre of the plica triangularis, and separates the tonsil bay almost in its full length. Only in the extreme upper part does it remain united. In this way there are formed two tonsil recesses: (1) The recessus tonsillaris superior, which is the larger of the two, and is outlined almost on every side by sharp folds, and (2) the recessus tonsillaris inferior, which is overtopped by the back part of the recessus tonsillaris superior, showing no sharp outline in the back at this stage. In the direction upwards and backwards, where the two intratonsillar folds are no longer to be found, both recesses continue in complete union. The walls of the recesses, especially those of the upper recess, are irregularly formed. Occasionally, with the epithelial growth extending downwards, the surrounding connective tissue is somewhat richer in

cells. Leucocytes have not been found under those cells.

In the 110 mm. embryo, the tonsil recesses can be found almost unchanged in their form or shape. The upper recess is here also the larger of the two, and is well outlined on all sides; while the walls of the smaller and lower one, towards the back, blend gradually into the surrounding mucous membrane. The upper recess has grown so large that it overhangs the lower one considerably, both externally and above. In connection with this, the infratonsillar fold has taken an upward slanting position with free inner and upper edges. From the lower, quite sharp edge of the upper recess, five solid cord-like epithelial proliferations have grown in the depths, and of those the three in front are the longest. Their ends are a little puffed. The two hinder ones are shorter and pointed. Soon the lower recess becomes closed in the back like the upper one, so that it looks like a pocket. Between the two, in a slanting direction, we notice the infratonsillar fold, which is thin and low in front, becoming broader and higher behind. The bottom of the upper recess is somewhat dented towards the lumen; otherwise, these recesses show almost the same shape as in their earlier stages. From the under edge and the outer wall of the upper recess, and now also of the lower recess, there are finger-like processes reaching out into the depths. From many of these processes, the somewhat thicker end-piece is separated by a deep constriction, and forms a cell-ball.

Around the processes of the recesses there is formed a cell-accumulation, the rudiment of the tonsil lobes. Both of these two lobes blend without sharp outlines into the surrounding connective tissue. Just as in the case of the upper recess, the upper lobe covers the front part of the lower. At the point of contact they become merged into a broad dilatation, but they do not unite with the intratonsillar fold which separates the recesses.

Embryo 190 mm. shows in the main the same conditions. Here also are two distinct pocket-shaped tonsil recesses. They run slanting upwards and outwards. They show the same arrangement, so that the back part of the upper recess covers the front part of the under recess.

Through the front part of the intratonsillar fold, there runs a groove which connects the two recesses with each other. This condition is of interest since it throws some light on the later stages, where the pockets appear almost melting into each other. The outer walls of the edges of the recesses are covered with finger or club-shaped projections.

Where both lobes meet they become partially merged, but this young adenoid tissue does not penetrate into the intratonsillar fold. From the tonsil backwards and upwards, there has developed a new sacculation. It is not directly connected with the formation of the tonsils, but it lies over the lymphoid formation and on the borderline of both lobes. The fold which is so formed is called the retrotonsillar fold. This is not constant, but it plays a noticeable part in the characteristics of certain definite tonsil forms.

The upper tonsil recess is divided by a marked horizontal furrow, in the front of the upper part there penetrates the deepest part of the single-appearing tonsil pocket. The shallow back pocket pushes into the lower back pocket, part of the lobe. Between the two sections and the outline of both lobes, there is a stretch where the pocket is not obvious. One may easily recognize this spot to be the rudimentary intratonsillar fold. Evidently from the single appearing tonsil pocket, the larger front part came out of the upper-front tonsil recess, and the smaller back part out of the under-back tonsil recess.

On the free edge of the back tonsil recess, a large flat tube appears, and the bottom of the front recess is split off into some of such tubes, differing much in size. Among these tubes is one split off into vesicles, three of which are pedunculated, and one already ligatured. Out of the extreme upper part of the outer wall of the upper recess sprouts one especially large tube, and next to it, a large epithelial vesicle is noticeable. Around this tube, the lymphoid tissue of the upper front lobe is grouped in such a way that it almost divides the tube into two sections, so that one might almost say there were three lobes. The inner side of the free surface of the mucous membrane of the tonsils is slightly vaulted. A slanting furrow runs through in such a way as very nearly to correspond with the borderline of the two sections of the upper lobe. The surface has a peculiar appearance in that folds of the mucous membrane almost surround it. From above, and from the back, the mucous membrane, having the shape of a well-developed retrotonsillar fold, lies on top of the neighbouring tonsil surface. The fold is elongated

in front directly into the plica triangularis which outlines the tonsil surface in front and partly downward. The deepest upper section formed elsewhere has a sickle-shaped pocket, and is called fossa supratonsillaris (His). From the meeting of the primary-formed tonsil recess with the pocket outlined by the retrotonsillar fold, there result rather complicated relations. Only by bearing in mind the course of the embryological development can this be appreciated. The number of leucocytes in the lymphoid tissue is noticeably increased. In this tissue there appear in certain places, round dents, nucleoid cell accumulations in almost concentric layers. These places strongly resemble secondary nodules, and may be recognized as the first rudiments of those formations.

In the 260 mm. embryo, the adenoid tissue which mainly embraces the bottom and outer wall of the pocket also forms two lobes.

The pocket formed through the confluence of the recesses is a long slit-shaped orifice somewhat concave backward and upward. This part stretching forward and downward towards the inner wall, the plica triangularis, is low, and the pocket itself becomes shallow. Only this part of the pocket, a cul-de-sac stretching from the orifice forward and upward, the supratonsillar pit, has kept its original depth. In this way, the lateral wall of the pocket seen from inside is a relatively large uncovered surface, so that the tubes opening here do not any longer open into the pocket, but directly into the pharyngeal cavity. This is an interesting relation because it shows in what way this pocket partly or totally disappears when development is complete.

In the case of a fully developed human fœtus which was examined, the tonsil recesses had kept their individuality better than in the two stages just described. There is found here a rather well-developed intratonsillar fold, sloping between the openings of the recesses. This fold is short, so that the front recess overlaps the back one only a little, and the surrounding lobes lie next to each other instead of overlapping. It is easy to see that the two recesses would unite and form one pocket if a reduction in the infratonsillar fold should occur. The way for such a union seems to be prepared through the low position of the end of the further fold. The tonsillar recesses are almost equally large, only the front lobe extends a little further than the back one. The secondary proliferations are very similar to those in the earlier stages.

Thus it is shown that the tonsil is not a mass but a double pocket; that its capsule is not lightly attached to the pharynx wall but is part of the pharynx wall itself; and where the sections of the double pocket meet (the junction of upper and lower lobes), there is a strong muscular belt attached to a group.

ANATOMY

The tonsils are part of the great lymphoid system of the alimentary canal. They should really be called palatine tonsils to distinguish them from similar masses in the pharyngeal region. Other portions of the thickened carpet of lymphoid tissue in the pharynx are the lingual tonsils, the pharyngeal tonsil and the lymphoid tissue around the openings of the Eustachian tubes. Collectively these are known as the ring of Waldeyer. In children from 3 to 10 years of age the palatine tonsils are proportionately larger than at any other time of life. After the age of 30 years they become progressively reduced in size and in old age they may be mere nodules embedded in pharyngeal wall with scarcely an indication upon the surface. But in contrast to this the lingual tonsil is most vigorous in its active development during adult life or after the removal of the palatine or pharyngeal tonsils.

Structure of the Tonsil—In its fullest development the simple mass of the tonsil projects with the still patent lumen of the pouch above it overarched by a thin redundant margin—the plica semilunaris. A similar thin and redundant margin remains beneath and in front of the tonsil as the plica triangularis. Sometimes the plica triangularis is subdivided into an anterior part of the plica pretonsillaris attached to the anterior pillar and a posterior part of the plica infratonsillaris attached to the posterior pillar.

The entire tonsil consists of an upper lobe which is like a hood-like pocket, a lower lobe which is a smaller pocket also opens to the throat, and the protruding central lymphoid mass.

The Capsule—It is not a definite structure like the capsule of the kidney. What the surgeon actually

removes is a thin lining of the adjacent fibrous tissues. The tonsil is separated from the muscles of its bed while thin, delicate areolar connective tissue interspersed with plain muscle fibres. The areolar tissue nearest the body of the tonsil tends to adhere to it in the form of a sheath while the similar tissue nearest the muscles tends in its turn to adhere to them forming a second sheath. Between these two outer and inner denser sheaths the fibres of areolar tissue are loosely organised, thus permitting motion and forming a potential space where cleavage makes surgical dissection possible. Between the upper and lower portion of the tonsils is a groove running from before backward from edge to edge of the capsule. This belt is grooved where the veins and muscle fibres are attached.

The Muscles. The Styloglossus:—The muscle may be injured by the removal of too much tissue near the lower pole of the tonsil.

The Stylopharyngeus:—This muscle is also in danger of injury by a rough enucleation of the lower pole. The ninth nerve turns forward round this muscle in its course to the base of the tongue. If this nerve is damaged symptoms may appear long after the operation.

The Palatoglossus muscle:—It is easily separated from the tonsil with which it is connected only by light fibres of the submucosa. Care should be taken not to button-whole the anterior pillar at the outer edge of the muscle.

The Palatopharyngeus:—From the posterior pillar and major portion of the tonsillar bed, its attachment to the upper half of the tonsil like that of the anterior pillar is easily severed though scars frequently complicate this part of the dissection and render it more difficult.

The Tonsillopharyngeus:—This consists of the fibres of the lateral part of the palatopharyngeus which becomes caught in the mass of lymphoid tissue at the junction of the upper and lower lobes or pockets of the tonsil. It is the only muscle known to be attached directly to the capsule.

The Arteries—The arteries supplying the tonsil are all derived from the external carotid. They are:—(1) dorsalis linguae from the lingual, (2) ascending palatine from the facial, (3) tonsillar from the facial, (4) ascending pharyngeal from the external carotid and (5) descending palatine from the internal maxillary.

The Veins—The veins of greater importance are found in the rough end belt of attachment about the junction of the middle and lower third at the outer aspect of the capsule.

Lymphatic Drainage—The lymphatic drainage is into the upper members of the sub-sterno-mastoid group of lymphatic glands specially into a large lymphatic gland immediately under the angle of the mandible.

Nerves—The nerves supplying the tonsil region include (1) sympathetic; (2) vagus; (3) trigeminal and (4) glossopharyngeal.

Physiology

It may be that the tonsil is only a part of Waldeyer's ring—a lymphoid-ring of structures, the function of which is unknown. That the tonsil is not an organ and that it has no peculiar function of its own is supported by the fact that innumerable pairs of tonsils are removed each without any harm to the patient. The hæmatopoietic (blood forming) theory, the protection theory, the elimination of various endogenous toxins during acute infectious disease and the internal secretion theory require to be further investigated before any conclusions are drawn.

When to Operate

Diseased tonsils are frequently found associated with infection in the sinuses and they are usually found when there is any ear infection—acute or chronic, otitis or mastoiditis. It has been shown that they are also found associated with general diseased conditions, such as rheumatism, arthritis, neuritis, or endocarditis and the tonsils are often considered dangerous as foci of infection. Commonsense must be the basis of determining when to operate. Children with normal tonsils are better off as they are. Furthermore the tonsil and adenoid operation is still too serious and too difficult a procedure to be undertaken without there being the best evidence that it will be followed by a marked improvement either in the condition of the throat or in the general health.

If it were free from all hazard of being abscess, hæmorrhage, mastoiditis and other complications it would be a less serious matter. When there is a doubt as to whether an operation will be worth while, it is better to be conservative.

Indications

Frequent cold and sore-throat, otitis or sinusitis or rheumatism, endocarditis or neuritis, the source of which may be the crypts of tonsils. The tonsil may be enlarged with pus visibly expressed on pressure or there may be a red arch over the tonsil, *i.e.*, a congested appearance above the anterior pillar; this latter is an important diagnostic sign.

Enlargement of the cervical glands, especially if this is due to invasion by tubercle.

In children the operation is sometimes indicated by the so-called "adenoid expression" which suggests infection of the lymphoid tissue of both lungs and throat. When the tonsils are sufficiently large to interfere with respiration and speech, when there is defective articulation and nasal voice, surgical interference is called for.

Contraindications

(1) Acute infection:—The tonsil operation is not performed during acute inflammation, sore-throat or when the patient has fever, as the chance of complications is greater under these circumstances. (2) A patient over 60 years of age should not be subjected to an operation without a specially searching examination of his general health. (3) High-blood pressure or hardened arteries are warnings of possible disaster.

(4) Bleeders:—One of the definite contraindications is a history of severe hæmorrhage.

(5) Pregnancy:—As a rule this condition should not be complicated with a tonsil operation. It may be followed by a miscarriage.

(i) In a child the enlargement may diminish as the child grows. This is true in some cases but in the interval the health and the growth of the patient will suffer from the obstruction to breathing, from the septic infection and from the renewed feverish attacks.

(ii) In the adult, perhaps the most frequent objection is that it will have a deleterious effect upon the voice. In all cases the speaking voice will be improved but in dealing with established singers great caution must be exercised and injury to the muscles should be avoided.

Operation

The Anæsthesia:—Local or general.

Objections to the Operations

The operation of tonsillectomy.—There is no question that the tonsil should in all cases be completely removed together with the infratonsillar nodules. Two methods of tonsillectomy are in vogue.

(i) By means of guillotine; (ii) by dissection. Speaking generally the guillotine method is advised for children, the dissection method for adults.

The guillotine method—Care must be taken that no part of the anterior pillar or uvula is included in the grasp of the guillotine, an accident which may very easily happen, especially if too large an instrument is used. The ring of medium size ($\frac{3}{4}$" is the most useful) and the blade well blunted before use in order to diminish the amount of hæmorrhage.

Begin at the lower pole and when the entire tonsil has been made to enter the guillotine the blade is pushed home and the tonsil removed.

The Dissection method:—The operator sits in front of the patient, seizes the tonsil with a vulsellum and with scissors divides the mucosa close to the anterior pillar so as to expose the white shining capsule. By dissecting with a tissue separator or pair of scissors the tonsil is gradually separated from the faucial pillars; a snare is then passed over the vulsellum and tightened well down over the base of the tonsil so as to divide its final attachments.

After treatment:—Put the patient in bed in the recumbent lateral position with knees and hips flexed and with a pillow behind him so as to prevent him from rolling over on to his back.

He should remain in bed for 2 days during which time the food should consist of soups, jellies, custard, etc. Ice cream is very acceptable and soothing. Milk is unsuitable at first as it forms a disagreeable sticky compound with mucus in the mouth.

An aperient may be administered on the following day. A mild antiseptic spray or mouth wash such as potassium permanganate in very weak solution, Glycothymoline, or Listerine may be used for a week. The parents or friends should be warned that during the 1st week or ten days the tonsil cavities will be covered by a white slough which will disappear as healing proceeds.

COMPLICATIONS

In a group of 250,000 tonsil and adenoid operations performed in all parts of the United States between 1915 and 1925, 33 deaths followed within 24 hours. Fatalities due to pulmonary abscess, either pneumonia or other complications are not included in this table.

The mortality has been very slight but it can be made absolutely nil.

Number of tonsil and adenoid operations	250,000
Number of fatalities within 24 hours ...	33
Causes:—	
Cocaine injection	4
Local Anæsthesia	4
General Anæsthesia	3
Status lymphaticus	3
Hæmorrhage	14
Other causes:—	
Embolus	1
Epilepsy	2
Anomalous Vessels	1
Internal Carotid Cut	1
	33

Hæmorrhage:—The proper surgical treatment is to seize the bleeding points and to ligature the vessel though it presents a technical difficulty of passing a ligature round a hæmostat in a tonsillar fossa owing to the depth of the wound and the cramped working space.

Diathermy:—The good results obtained by it in malignant disease of the tonsils suggested that it might be used for septic tonsils.

Claims are made that the method is safe and simple, that there is less pain and less risk of hæmorrhage, and finally that it saves the patient time and money. Theoretically the tonsil is not entirely removed and the danger of secondary hæmorrhage is great. There is post operative pain in the series of treatment. Secondary infection, with œdema is always present in some degree and scar tissue invariably the end results. Diathermy is unsurgical and dangerous in itself. Additional surgical removal is necessary afterwards.

Tonsillectomy is as yet the only operation which fulfils the demand for complete removal of the faucial tonsil and complete eradication of it as a focus of infection.

Read at the III U. P. Medical Conference, Allahabad. October, 1936.

PRE-ECLAMPTIC TOXÆMIA AND ITS TREATMENT

NEMAI KRISHNA BANERJEE, M.B., M.O. (Cal.).
Calcutta

"Pre-eclamptic toxæmia" or "Eclampcism" is a disease so varied in nature and at times perplexing to diagnose if the usual book method is followed.

The majority of patients suffering from "Pre-eclamptic toxæmia," if left untreated, do not suffer from eclampsia but other complications do creep in at the time of labour such as still birth and anti-partum hæmorrhage. Of course, in some cases severe complications such as blindness, and intracranial hæmorrhage threaten life.

Eclampsia may develop without signs and symptoms of pre-eclamptic toxæmia. Hence pre-eclamptic toxæmia is a symptom complex which is noticed in certain gravid women specially in the later months of gestation.

There are various theories as regards the ætiology of pre-eclamptic toxæmia. They are about twenty-two in number and none of them can prove the real cause of this disease.

It is a fact that those who have low reserved kidneys fall an easy prey to it. They suffer from this at every time of gestation in more or less severity. The reserve power of the kidneys is low amongst the Bengalees as we have low reserve power in other organs specially amongst the females. This low reserve power is probably on account of defective diet and want of exercise since infancy. Consequently it is not a rare disease in Bengal. 13·4% of the patients who attended the ante-natal clinic of the "Sisumangal Protisthan" were suffering from pre-eclamptic toxæmia.

All the signs and symptoms that are mentioned in literature are not possible to be detected in every case as there are gradations of the toxæmia and a few of the signs are enough to put a patient under treatment as nobody knows when she will have a fatal complication. The degree of toxæmia in the system may increase in a very short time.

The older view that toxin from the placenta causes derangement of the kidney and the liver is nowadays modified into intra-abdominal tension causing congestion of those organs during pregnancy. This congestion leads to their dysfunction; so products of defective metabolism accumulate in producing various signs and symptoms. But it is a well-known fact that in males owing to dysfunction of the liver and the kidney such a symtpom complex as pre-eclamptic toxæmia exactly does not occur. A symptom complex originating in non-gravid females and in males from renal and hepatic dysfunction is usually known as uræmia. Uræmic convulsion is not exactly like the typical eclamptic fit which is one of the chief signs of eclampsia after the premonitary stage of pre-eclamptic toxæmia. Why the character of uræmic convulsion differs from that of eclamptic fit nobody can say. The typical eclamptic fit occurs in the later months of pregnancy, so the peculiar effect of syncyotoxin on nerve cells making them highly irritable to stimulus is believed.

That hyper-posterior-pituitarism in pregnancy is the cause of pre-eclamptic toxæmia is brought before the world by Hofbamer. The signs and symptoms with the pathological and biochemical changes in the system of eclamptic patients was explained by him through the action of posterior pituitary secretion in pregnancy. We know as far as endocrinology can state that corpus luteal secretion is antagonistic to posterior pituitary secretion. I administered a series of injection of extract corpora lutea (P. D. & Co.) in a few cases of early pre-eclamptic toxæmia but no improvement was observed.

Whatever may be the cause which deranges the organs in the system specially the liver and the kidney, it is a fact that poisonous products from metabolism of the mother and of the fœtus accumulate in the system instead of being excreted out and produce harmful effects. It is also a fact that poisonous products are excretable and consequently eclampsia is a preventable disease to a fairly large extent and certainly the fatal termination of 40% death (Dr. M. Sarkar, *C. M. J.*) can be fairly avoided if we instruct

our mothers and sisters the importance of ante-natal care in the hand of intelligent men of our profession.

With apology I beg to put before you the view of many friends of our own profession that a few signs of pre-eclamptic toxæmia are of no importance and no treatment is necessary. Disastrous results I have seen owing to the fault of the family physician by preventing their patients from following an advice in cases of pre-eclamptic toxæmia.

Men like William, De Lee and Das impressed us with their advice that after proper treatment of pre-eclamptic toxæmia, eclamptic fits may occur but the severity of the disease, as a rule, is much less and the termination of pregnancy is not frequently fatal.

I had an opportunity to study a few cases at the " Sisumongal Protisthan." I started to record cases from the middle of 1935 to the end of 1936. There were altogether 2,105 pregnant women who attended the ante-natal clinic, out of which there were 280 (13·4%) cases diagnosed by me as cases of pre-eclamptic toxæmia.

These cases fall under the following four groups :—

1st Group—In this group the chief sign is a trace of albumen in the urine. There were 30 cases (1·4%).

2nd Group—In this group there is albumen in the urine and œdema of the legs and dorsum of the feet. There were 68 cases (3%).

3rd Group—In this group there is albumen in the urine, œdema of the legs and with that blood pressure, specially the diastolic pressure is raised. The patient complains of headache, insomnia, and at times giddiness. There were 163 cases (8%).

4th Group—In this group there is albumen in the urine with diacetic acid and casts in it, and the blood pressure is high. There is œdema of the legs, headache, insomnia and giddiness. Eye trouble such as flashes of light, dimness of vision specially at night are also present.

In the third and fourth group I have observed urea and uric acid content of the blood raised.

The object of this classification according to the gradation of toxæmia is to bring into bold relief the fact that many patients fall from one group to the other, if they are left untreated. Of course, variations of signs and symptoms are observed in some cases and one often fails to put a few cases into any particular group.

In every group of cases fits of eclampsia may come on. A case from the group four may not have fit but a case from the group one may have fits.

There must always be a strong objection against the belief that œdema of legs occur on account of venous stasis and that it is of no significance, that during pregnancy albuminuria occurs so there is no necessity for taking precautions. The condition of the patient with slight œdema of the legs and a trace of albumen in the urine may take a serious turn in course of a few days. There is a belief that pre-eclamptic toxæmia occurs in primigravidas only but in my group of cases there were 75 multiparas.

As regards differential diagnosis pre-eclamptic toxæmia is differentiated generally from nephritic toxæmia, cardiac failure, anæmia and nowadays from epidemic dropsy, specially in Bengal.

If those patients who are suffering from nephritis become pregnant, the signs and symptoms are aggravated and we can say that the disease is nephritic toxæmia, otherwise during pregnancy if a case is diagnosed as nephritic toxæmia on account of advanced age, multiparity etc., error is often noticed. As recently a Punjabi patient aged 42, five para with B. P. 180 systolic, 110 diastolic, with albumen and granular casts in the urine, was diagnosed by a learned friend of mine as nephritic toxæmia and to our utter astonishment she had 14 eclamptic fits.

Failure of compensation of the heart may be easily eliminated by carefully noting the cardiac condition of the patient.

As regards anæmia, the estimation of hæmoglobin value is helpful. In some cases of anæmia I have observed presence of a trace of albumen, but the blood pressure is always low.

In epidemic dropsy the B. P. is low; with the œdema of the legs a red or brownish flush is noticed; the cardiac embarrassment is common, diarrhœa sometimes is a prominent symptom; albumen in the urine is as a rule absent.

A few cases of eclampsia associated with other diseases were published by me in the *Calcutta Medical Journal*. Other diseases may entirely mask pre-eclamptic toxæmia. So we must keep in our mind wherever we are treating a pregnant woman in the later months of pregnancy that eclampsia may occur.

TREATMENT

The main principle of treatment is to promote elimination of the toxin and the waste product of protein metabolism. Sedative to the nervous system is also advised. If medicinal treatment fails to improve the condition of the patient and if in spite of proper treatment the optic nerve, the disc and the retina are attacked or the urea concentration factor falls below 30, induction of labour by high rupture of membranes or cæsarean section is advised.

The process for elimination of the toxin and the drawing out of œdematous fluid from tissues, specially the brain and the spinal cord, is of peculiar type in Lazard's treatment. Lazard's followers can show good result in America but most of the renowned obstetricians like De Lee condemn it. The method of Lazard's treatment is as follows:—Intravenous injections of 20 c.c. of 10% solution of magnesium sulphate and 25 c.c. of 50% glucose solution are done after venesection. If B. P. rises after this method of treatment venesection is again performed and the previous method of treatment is repeated in course of 4 to 6 hours. Lumbar puncture is advised if pressure of the cerebrospinal fluid is high. As regards diet dry solid food such as biscuits and toasts are advised with fruits. Diuretics and saline purgatives are also used and the fluid ejected with the urine and the stool is measured. Drinks are stopped so long as the quantity of the liquid passed with the urine and the stool does not exceed the amount taken per mouth.

Minot and Cutler found out that in carbon tetrachloride poisoning the guanidin content of the blood is increased and in eclampsia too the same thing happens. In carbon tetrachloride poisoning the administration of calcium is useful, so he recommends the use of calcium in eclampcism or eclampsia. Standar found out that the guanidin content of the blood does not increase in eclampcism or eclampsia. However, calcium administration does no harm; we all know the beneficial effect of calcium in the human system.

It is a fact that product of protein catabolism produces harmful effect on the fœtus and on the mother if they remain accumulated in the system. The bad effect of syncytotoxin with the injurious action of urea and uric acid produce a syndrome which can be removed if excretion is promoted by diuretics, diaphoretics and saline purgatives and by restricting protein diet. In many cases blood pressure does not come down with this method of treatment but the patient gets relief from insomnia, headache and giddiness.

In group one and two the alkali mixture with half a drachm of potassium citras and twenty grains of soda bicarb. given thrice daily in addition to the use of calcium lactas is very useful.

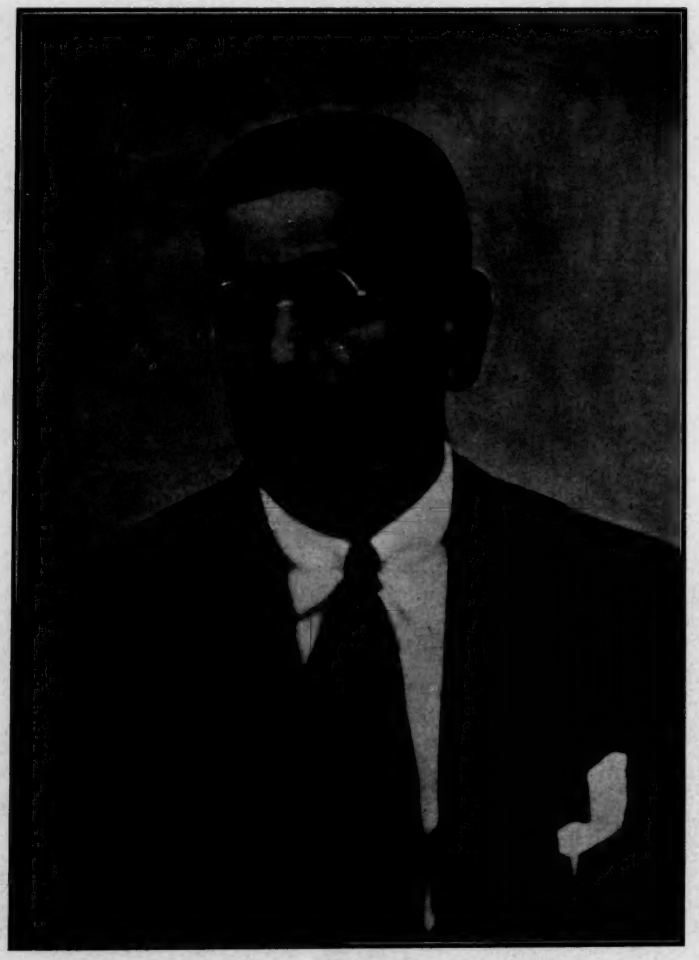
In group three and four are advised a dose of mag. sulph. 4 drams once in the morning and a carbohydrate diet with milk 1 seer per day.

In spite of this form of treatment in two cases the urea concentration factor remained below 30 and no change occurred in papilledema and papillitis. In one case blood pressure was very high: systolic—220; diastolic—115, right heart remained engorged. Venesection was performed twice and drew out 20 ounces of blood but after 48 hours the pressure again rose to the previous height. Consequently the labour was started by high rupture of the membranes. This procedure was followed in both these cases. One of them was a case of twin pregnancy. The result was uneventful recovery.

A similar case was seen where cæsarean section was performed with good result.

In 10 cases out of 280 pre-eclamptic patients fits appeared during labour in spite of treatment. The number of fits were few, varying from 1 to 6. All of them had uneventful recovery. Two patients had still births. Post mortem was not allowed so the real cause of death cannot be ascertained. Seven patients had moderate antepartem hæmorrhage but they had living babies.

Read at a Clinical Meeting of the Calcutta Branch, I. M. A., held on 17-6-37.



Born 1878. Died 1937.

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In Memoriam

The medical profession in India has sustained an irreparable loss in the death at the comparatively early age of 59 of Dr. J. N. Bose which melancholy event took place on the 26th October, 1937, at his Calcutta residence.

Youngest son of Late Dina Nath Bose and brother of late Rai Bahadur Dr. Chuni Lal Bose, the first Indian Chemical Examiner of Bengal, Dr. Jatindra Nath Bose was born in 1878 in Chingripota in the district of 24 Parganas, Bengal. He was educated at the Shambazar Vidyasagar School and at the General Assemblys Institution. He passed in 1902 the L. M. S. examination of the Calcutta University with distinction and was immediately taken in as House Surgeon in the Calcutta Medical College Hospitals. He was soon appointed a Civil Assistant Surgeon and worked at different places in the provinces of Bengal and Bihar. In 1912 when Bihar was separated from Bengal he elected to remain in Bihar though in 1915 he had to retire from the Government Service owing to indifferent health. He came back to Calcutta where he lived and practised till his death.

He was actively associated with the Tuberculosis Association of Bengal, the Indian Red Cross Society, the Indian Life Savings Society and several other philanthropic institutions. One of his hobbies was sports and he was one of the founder-members of the Mohun Bagan Athletic Club, the premier Indian Football Club.

For the Indian Medical Association of which he was all along a member of the Central Council and sometime a Vice-President and for its Calcutta Branch of which he was the President he spent in his later life much of his time and energy. He considered it his sacred duty to attend the All-India Medical Conference every year. He was a pillar of strength to the Association and those who worked with him will remember gratefully his keen and passionate interest in the welfare of the Association from its very inception.

The passing of Dr. Bose has deprived the city of a leading member of the medical profession and will occasion sorrow to numerous devoted patients and to a wide circle of friends and colleagues, for he was often very much more than their professional attendant, guiding and advising them in many family crises. He was a man of strong common sense, wide vision, and genial temperament. He is survived by his widow, one son and two daughters to all of whom we offer our heartfelt condolence.

CASE NOTE

A CASE OF SKIN GRAFTING BY SMALL DEEP GRAFTS

K. S. DUNAKHE, L.M.P.,

Jalgaon

On 3rd April, 1937, I saw a patient aged 25 who had come to me for a chronic ulcer on the dorsum of the left foot. This fellow had an abscess which he neglected and when there was extensive sloughing of the skin he went to a medical practitioner in Bhusaval. He dressed the wound for some months. The major part of the ulcer healed but the central portion and that on the medial malleolus would not heal with any dressing. All sorts of dressings and antiseptics were tried. Red lotion was given a trial too. The ulcer on the dorsum was surrounded by a raised scar tissue. There were no granulations The whole foot was swollen. He had no varicose veins.

As regards his general health he had a huge enlarged spleen well below the umbilicus. He had jaundice but the liver was not enlarged. He had an irregular rise of temperature daily for which I gave him 3 quinine injections but the temperature still continued and it yielded only to urotropin injections.

I thought that the scar tissue surrounding the ulcer is obstructing its blood supply and that skin grafting after removing this scar tissue might bring about rapid healing of the ulcer.

On April 5 the whole scar tissue was cut off making an extensive raw surface on the dorsum and malleolus. I allowed the wound to granulate for nearly 20 days. Granulations were very slow to form, perhaps on account of his poor health. I tried to stimulate granulations by Mag. Sulph. compresses and by Brilliant Green 1 in 1000. Even after 20 days the margins had hardly progressed beyond 1/3 of an inch. I was satisfied with the condition of granulations on the medial malleolus but those on the front part of the dorsum were scanty and I was doubtful whether grafts would take here.

I did not take a bacterial count of the discharge of the ulcer but relied on the naked eye appearance of the same, for its fitness of being grafted.

On the 25th April I did skin grafting by the method of small deep grafts.

In both the operations initial cutting of the scar tissue and actual skin grafting were done under local anæsthesia.

The ulcer was thoroughly washed with ether after slight scraping of the glossy granulations. Then it was irrigated with saline. Then it was dried and covered with gauze. Grafts were cut from medial and anterior surfaces of the right thigh and from the inner surface of the left arm. I used 10% novocaine for anæsthetizing the skin from which grafts were cut. A small needle mounted on a 1 c.c. record syringe was used. A small dermal wheal was raised by injecting novocaine solution to which adrenalin was also added. At a time I used to raise three wheals Then each was pierced with a needling needle and slightly raised and fixed with it. A small piece of skin about 1/3″ diameter approximately circular in shape was cut in its whole thickness. It was carried on the needle and handed over to my assistant, who kept it and lightly pressed it on the ulcer. Two needles were used. I cut grafts and my assistant kept them on the ulcer and looked after them. The area which was having grafts at the time only was exposed, the rest being covered with sterile gauze

I did not cover the whole surface of the ulcer with grafts. I kept an interval of about 1/3 of an inch between any two grafts. In all, about 25 grafts were necessary to cover the ulcer. The grafts cut were always thick in the centre and thin at the edges. If any fat or subcutaneous tissue came on graft it was cut off with scissors.

Oil silk which was punched with tiny holes was placed on the grafted area, *i.e.*, next to the graft. Then ordinary gauze covered with cotton wool over which 4 square sponge pieces were kept and then it was bandaged with firm pressure.

Finally that part was placed in plaster splint which was prepared two days beforehand.

Dressing was opened first after 48 hours. No antiseptics were used. Only saline was used for cleansing purposes.

In 10 days the ulcer healed completely. Only one graft which was displaced at the time of bandaging came out. All the rest took and grew and joined each other.

The patient was discharged on the 12th day completely healed. The grafts are still visible as raised portions and they can be marked out for the whole of his life.

Dr. Bakhru, District Surgeon who was consulted by the practitioner in Bhusaval for this case was also of the opinion that the skin grafting was essential in this case.

For the success of skin grafting some points must be borne in mind. Asepsis and hæmostasis are essential. Pressure dressing (having all round pressure) with equal distribution of pressure for which incorporation of sponge in the dressing is necessary is also indispensable. The whole part requires immobilization for which plaster splint must be used. The strength of the novocaine solution I used needs comment. This strength did not affect the vitality of the graft. A small quantity was sufficient for anæsthetizing.

Read at a monthly meeting (May, 1937) of the Jalgaon Branch, I. M. A.

CURRENT MEDICAL LITERATURE

MEDICINE

Pneumolysis Combined With Extrapleural Pneumothorax

Rhodes (*Lancet*, August, 14, 1937, page 377) describes in the following lines the method of extrapleural pneumothorax advocated on the continent by Graf and Schmidt in their clinics at Coswig and Heidelberg respectively. Under local anæsthesia a short portion of the third rib is resected through a paravertebral incision, the corresponding intercostal nerve is divided, the parietal pleura is identified and separated from the endothoracic fascia with finger tips or any blunt instrument and pneumolysis is carried over the cupola of the lung and down over the mediastinal surface to the root to achieve selective concentric collapse. This stripping is facilitated with the help of a small lamp within the chest and any bleeding quickly controlled. After the lung is thus freed the wound is either completely sewed up or a small catheter is left within being attached to a manometer to maintain a zero pressure for 24-36 hours. The first method of primarily closing up the wound is safe and reduces risk to infection. The degree of collapse achieved and its continued maintenance is determined by serial radiographs and refills are carried out whenever necessary through the anæsthetic space left after resection of the rib. In this extrapleural pneumothorax the manometric readings show less variation in inspiration and expiration and the amount of air required at each refill is less, being seldom over 200 c.c. In case obliterative pleurisy develops extrapleural oleothorax may be done with a definite period of time intervening to ensure the stiffening of the walls of the space avoiding perforation of the lung. The indications for extrapleural pneumothorax are the same as for an intrapleural pneumothorax, *viz.*, relatively fresh infiltration with cavitation and early infiltration which tends to spread but cannot be controlled by intrapleural pneumothorax because of adhesions. Complications are not serious—they are bleeding, immediate or delayed, subcutaneous emphysema, infection, etc. Schmidt reports 3 fatal cases out of 100 operated on and Graf reports 7 cases out of 107. In no instance death was due to operation. The results are quite encouraging and justify wider trial.

Permanent Diabetes Induced By Pituitary Injections

Young (*Lancet*, August 14, 1937, page 372) reports that he has produced in two dogs permanent diabetes by daily injection in large doses of freshly prepared extract of anterior pituitary gland of the ox. This diabetes differs from that produced in a depancreatised dog in the fact that in the former the dogs survived indefinitely without insulin in a vigorous condition, one of the dogs having lost no weight. One of the dogs required 60 units of insulin (4·4 units/kg.) each day to keep the urine sugar-free. This is the first time that permanent diabetes has been experimentally produced without surgical interference with the pancreas.

Factors And Events Associated With Onset Of Coronary Thrombosis

Master and Associates (*Journal of American Medical Association*, August 21, 1937, page 546) report on the study of 817 attacks of coronary thrombosis occurring in 555 patients of whom 185 were private and 370 hospital patients. Their observations include the following: Age—ranged from 27 to 88, majority in the 6th or 7th decade; sex—432 men and 123 women affected; occupation—49% were labourers and 51% include other workers; time of the day when the attacks occurred—49·6% between 7 p.m. and 7 a.m. and 50·4% between 7 a.m. and 7 p.m.; exact time of onset—50% between 10 p.m. and 6 a.m.; attending events, *viz.*, rest—21·7%, sleep—19·6%, walking—18·0%, mild activity—13·6%, moderate activity—5·3%, severe exertion—2·1%, trauma—0·2%, during or after meals—5·3%, excitement—5·1%, post-operative—4·1%, infection—1·9%. The authors point out that though angina pectoris and coronary thrombosis are probably manifestations of a metabolic disturb-

ance and though both have the same local pathological basis, *viz.*, the sclerosis of the coronary artery, they differ widely. Angina pectoris in the majority of cases are definitely related to exertion and the attack is relieved by glyceryl trinitrite whereas coronary artery thrombosis occurs irrespective of rest, activity, excitement or emotion, season or temperature and nitrite is quite ineffective as is evidenced from the above-noted observations.

Clinical Observations On The Effect Of Benzedrine Sulphate

Wilbur and Associates (*American Journal of Medical Association*, August 21, 1937, page 549) report that benzedrine sulphate which has a sympathomimetic action and a profound stimulating effect on the central nervous system was tried in 100 carefully diagnosed cases of chronic exhaustion, psychoneurosis, and depression. The authors note that the immediate result of its use by the oral route was very favourable in 80, 70 and 46 per cents. respectively and in some instances was spectacular but the result of its continued use was less favourable as only 50% of the cases with exhaustion and 25% of the cases with depression showed continued improvement for periods from one to eight months.

Theophylline-Ethylenediamine In Cheyne-Stokes Respiration

Maris and McMichael (*Lancet*, August 21, 1937, page 437) report that theophylline-ethylenediamine or Euphyllin has a remarkable effect in abolishing Cheyne-Stokes respiration and giving marked relief to the patient. They further note that theophylline alone does not produce this effect but it is the ethylenediamine content of Euphyllin that is responsible for the favourable results thus obtained. This effect is produced by direct stimulation of the medullary respiratory centre and it occurs in the absence of any demonstrable changes in the circulation. The drug is usually put in a 2 c.c. ampoule containing 0·48 gm. of Euphyllin. It is given intravenously in the following way: 0·5 c.c. is given as the respiratory movements begin to decline, then waiting for the next period of hyperpnœa to decline, the second 0·5 c.c. is given and the whole process is repeated again until 2 c.c. is given. The drug may also be given well-diluted with saline. Euphyllin is also effective when given per mouth (0·5 gm.), but less so when given per rectum.

The Use Of Acetyl-Methyl Choline (Mecholyl) As A Diagnostic Test For Poisoning By The Atropine Series Of Drugs

Dameshek and Feinsilver (*Journal of American Medical Association*, August 21, 1937, page 561) write that atropine neutralises the characteristic effects of acetyl-beta-methyl choline or Mecholyl *viz.*, perspiration, salivation, lacrimation and rhinorrhœa. This fact is utilized in employing Mecholyl as a diagnostic test for detecting the presence in the human body of atropine series of drugs in the smallest amount because in their presence Mecholyl fails to produce the typical salivation, perspiration, etc. In a series of 5 cases of psychosis caused by the use of scopolamine the authors found the test quite valuable and trustworthy.

Ambulatory Treatment Of Phlebitis

Stotzer (*Schweizerische medizinische Wochenschrift*, May 22, 1937, page 476) maintains that stagnation of blood as is encouraged by rest in bed definitely retards natural recovery in thrombophlebitis and proves his contention satisfactorily by treating successfully for the last ten years one hundred cases of thrombophlebitis of different types by ambulatory treatment with a special elastoplast rubber bandage compressing the veins in the limb throughout its whole length. The bandage is usually removed after 4 weeks. There had been no instance of embolism. Only contra-indications to this method of treatment is the condition associated with fever and severe pain on movement.

Sulphonamide In Gonococcal Infection

Dees and Colston (*Journal of American Medical Association*, May 29, 1937, page 1855) report on the success achieved in treating 19 cases of gonococcal infection by the oral use of sulphonamide at the Johns Hopkins Hospital. Only three cases did not respond and only one had a slight recurrence on the fourteenth day. The urethral discharge disappeared in the majority of cases within one to seven days and

symptoms of burning and frequency disappeared in one to eight days. 4 gms. of the drug was used daily in 4 divided doses in the first 2 days, 3·6 gms. daily for the next three days followed by 2·4 gms. for the next 4 to 8 days. Slight dizziness and lassitude were observed in only 4 instances and the author advises immediate reduction of the dose of the drug on the appearance of these symptoms and its stoppage when they persist.

TREATMENT OF RHEUMATIC ENDOCARDITIS

Tillich (*Deutsche medizinische Wochenschrift*, June 11, 1937, page 928) following the theory of Eppinger and Siegmond that rheumatic endocarditis is primarily a serous inflammation, treated satisfactorily a series of cases of rheumatic endocarditis by potassium salicylas in the form of shock therapy. The treatment is as follows:—For the first 4—5 days no medicine, rest in bed on a salt-free diet and when well-tolerated a 'raw-diet' poor in sodium and rich in potassium (Eppinger). This often produces much improvement in the temperature and general condition of the patient. After 4 or 5 days large doses of potassium salicylas are used and only in very obstinate cases Melubrin and Novalgin are given intravenously in addition. This treatment is soon followed by a fall in temperature, disappearance of the swelling and pain in the joints, increased appetite, decline in sedimentation rate, increase of lymphocytes and raising of blood pressure. 15 out of 21 cases who had cardiac defects electrocardiographically before treatment were found perfectly healthy afterwards. The treatment is successful particularly in recurrent endocarditis and polyarthritis—only 3 weeks' treatment with a days' pause every 3rd day is sufficient.

TREATMENT OF INTERTRIGO

Sabouraud (*La Presse Medicale*, August 4, 1937, page 1141) treated successfully intertrigo in adults and aged people with iodized alcohol (1:100). This should be rubbed with a cotton swab held in an artery forceps and there is an immediate relief. This is to be followed by local application of a pomade of zinc oxide 1:10 containing 1:60 to 1:30 of tar. The complete cure takes place in two to three weeks.

CONTINUOUS INTRAVENOUS SALINE INFUSION

Bailey and Associates (*British Medical Journal*, March 13, 1937) give in the following lines the indications and contra-indications of continuous intravenous saline infusion and its *modus operandi*. The indications are (1) dehydration of any cause, (2) prevention of post-operative shock, (3) treatment of established shock (one ampoule of coramine or 5 minims of 1 in 1000 adrenaline to each pint may be added with advantage), (4) diabetic coma, (5) post-operative thyrotoxicosis, (6) profound jaundice after obstruction has been removed, (7) septicæmia, (8) as a means of inducing evipan anæsthesia (before operation), (9) continuous intravenous sodium sulphate in oliguria and anuria (42·85 gms. of Glauber's salt dissolved in 1 litre of water—one to one and a half pint is given daily, the remainder of the time normal saline is employed). The contra-indications are (1) failing heart, (2) pulmonary congestion, (3) hypertension, (4) Bright's disease, (5) obstructive jaundice if obstruction is still present. The solution to be used must be thoroughly sterile—triply distilled water not more than one week old must be used. Glucose and saline must not be combined unless specially indicated because of the possibility of formation of phlebitis and thrombosis. In the choice of the vein it must be known that the most prominent is not necessarily the best; one which is easily palpable and well-supported by fat is better. Soaking of the arm in a hot bath for 15 mins. makes the vein more prominent. For splinting the limb a plaster cast is best for the arm and a Thomas knee splint for the leg. Applying hot water bottle to the limb is the simplest and best way of keeping the fluid warm. The rate of flow must be 50 drops per minute and the reservoir must always be kept more than half full. The administration of saline must not be continued beyond 72 hours and if more infusion is necessary a separate vein must be punctured. Bases of the lungs must be examined for œdema specially after 48 hours and the total output of urine measured and its specific gravity determined. When glucose is used phlebitis often develops with the formation of local redness and tenderness which of course disappears soon after discontinuance of the flow. When the apparatus gets blocked and the flow stops there is always danger of air embolism during its adjustment and it is avoided

if the needle is removed and reinserted after adjustment.

SURGERY

Modern Treatment And Results Of Treatment Of Fractures Of The Neck Of The Femur

Hey Groves (*British Medical Journal*, August 21, 1937, page 359) gives in the following lines his observations on the modern treatment of fractures of the neck of the femur. He points out that Smith-Paterson nail method if properly employed is the best way of treating intracapsular fractures of the neck of the femur. It is simple, accurate and free from danger. It acts as an efficient internal splint and allows the patient to get up very quickly. However, the author maintains that open operation is the method of choice in young and vigorous patients but for feeble old men the nail method should be used. In ununited cases a bifurcation osteotomy is the method of choice.

Phrenic Paralysis In The Treatment Of Certain Thoracic Complication Of Subdiaphragmatic Infection

Coope and Reid (*Practitioner*, Sept., 1937, page 273) writes that the lymphatic supply of the diaphragm is such that it forms an efficient barrier to extension of infection from thorax to abdomen but allows freely the infection from below upwards, *i.e.*, from abdomen to thorax. The earliest manifestation of thoracic complication of a subphrenic infection is usually a plastic pleuritis, which often causes fixation of the undersurface of the lower lobe of the lung to the diaphragm. There may be pleuritic effusion and empyema which may either be localised and encysted or track to the thoracic wall or invade the lung causing pneumonia and lung abscess. Below is reported a case in which crippling effect of scarring following a subphrenic inflammation was dealt with by crushing the phrenic nerve and so paralysing one half of the diaphragm.

A woman of 30 had in December, 1936, perforating gangrenous appendix with peritonitis. The operation wound healed in one month but she never became really well and began to complain of pain in the back and right side in the region of lower ribs radiating to the right shoulder with no jaundice. Later on in April she developed cough and began to bring up sputum containing pus and blood. She had drenching sweats but she did not record her temperature during this period; exploratory puncture of the right pleural cavity was negative. She was admitted in the Liverpool Royal Infirmary with pain in the right chest at the back, temperature 99°F., spitting up blood and pus in small quantity. Clinical examination—negative in the abdomen; lung—right base—diminished expansion, dullness to percussion, poor air entry; heart—slightly displaced to the right. X-ray revealed marked elevation of the dome of the diaphragm with restriction of movement and thickening of the diaphragmatic, interlobar and peripheral pleura on the right side. Lateral view of the X-ray showed actually "hitching up" of the diaphragm at one point. Lipiodol injections showed no evidence of bronchiectasis and bronchoscopy revealed no abnormality in the right bronchus. Leucocytosis of 18,500 with 90% polymorph cells was present.

She developed likely an empyema following a subphrenic abscess and the pain in the right chest was largely due to tension of adhesion involving the diaphragm, pleura and the lung. On June 6, her right phrenic nerve was crushed under local anæsthesia with complete relief of pain, stoppage of spitting up blood and pus and gradual increase in weight.

Diagnosis Of Dental Infection By Short Wave Provocation

Gutzeit and Kuchlin (*Munchener medizinische Wochenschrift*, June 11, 1937, page 961) point out that short wave irradiation of the dental root produces in 2 to 4 hours a definite increase in the sedimentation rate in cases where the infectious foci cause systemic disorder but no such reaction takes place in cases where the infection remains localised. This fact is utilized in differentiating cases of active foci from those of inactive ones and will prevent the blind radical removal of all suspected foci and unnecessary crippling of the dental apparatus. The electrodes used in these cases are 2 by 3 cm. in size and should be applied one on the palatine or lingual side and the other on the buccal side. A pleasant sensation is usually felt by the patient.

OBSTETRICS AND GYNÆCOLOGY

Observations On Prolapse Of The Uterus And Its Management

Chakravarty (*Indian Medical Gazette*, Sept., 1937, page 538) observes that prolapse of the uterus is one of the commonest gynæcological conditions found in Bengal as is evidenced from the fact that of the 366 operations done in 1935 in the Carmichael Medical

College Hospitals 84 were of prolapse. The prolapse in nulliparous women is not so rare as it was thought to be but the author cannot at the present state of knowledge definitely ascribe this large incidence to any cause other than inherent weakness and enfeebled health of the sufferers. The different causes of prolapse as mentioned by him are (1) early marriage and conception at an early age, (2) repeated pregnancies with a very short interval for recouping health, (3) want of nourishing and vitamin-rich food for the nursing mother and prolonged lactation, (4) inefficient management of labour and puerperium, (5) too early resumption to household work after confinement, (6) too much strain brought on by attacks of cough or straining, particularly of dysentery which is very common in Bengal, (7) undermining of health by chronic malaria, kala-azar and other types of splenomegaly common amongst the middle and poor class of people in the villages. For prevention the author advises (1) maintenance of general health at the highest possible level during pregnancy, (2) avoidance of undue haste in terminating the second stage of labour and of application of forceps through an undilated cervix which is a common temptation in private practice, (3) immediate efficient repair of the supporting structure that is damaged, (4) prolongation of the lying-in period and encouragement of rest during that period.

For treatment of prolapse a plastic operation is the operation of choice, the abdominal operations alone having no place in it, particularly in Bengal where relapses are common in young patients. The immediate results of this operation is very good. Moreover the reproductive function is not interfered with.

The Treatment Of Varicose Vein In Pregnancy

Solomons (*Journal of Obstetrics and Gynæcology of the British Empire*, August, 1937, page 650) reports 97% satisfactory results in a series of 60 pregnant women suffering from varicose veins treated by injection of quinine urethane. Of the 3 patients who had subsequent pregnancies 1 had a slight recurrence of the trouble. None in the whole series had any serious complications although some had slight inflammatory reactions. Cases with previous history of phlegmasia alba dolens and suspected impairment of deep circulation are contra-indications to its use—these cases are better treated by bandages and plasters. In a suitable case a sterile solution of quinine hydrochloride 0·266 gm. and urethane 0·133 gm. to each 2 c.c. of distilled water is injected, the maximum amount being 2 c.c. and that too is given in 4 divided doses at different sites. Firm pressure for a few minutes is applied at the point of injection after withdrawal of the needle and finally the wound is dressed with collodion. Injections are given at weekly intervals but never at the sites of previous injection for at least two weeks. These injections are started near the foot and are gradually worked upwards. The average total number of treatment required was 2·7, the highest being 7 and the lowest 1. The injection of quinine urethane does not affect the pregnant uterus. Quinine acts by irritating the epithelial lining of the vessel wall with the formation of a tough and adherent thrombus and urethane has an anæsthetic action and helps in the solution of quinine in water.

Eclampsia And Its Sequelæ

Teel and Reid (*American Journal of Obstetrics and Gynæcology*, July, 1937, page 12) in reviewing the study of 172 eclampsia patients treated in the Boston Lying-in Hospital observe that the mortality which is 26·6% is higher in multiparas than in primiparas and higher in patients over 30 years of age. Of 127 patients who survived 8 subsequently died, 3 of recurrent pregnancy toxæmia, 2 of severe hypertension with cerebral lesion, 1 of cardiac decompensation, 1 of lobar pneumonia with hypertension and nephritis, and 1 of cancer cervix. Of 87 patients who survived and who were followed up for an average period of 7·6 years hypertension was present in 27·5% and albuminuria in 8·75% and a significant number of these patients had hypertension or chronic nephritis prior to this attack of eclampsia. In 29 patients who were perfectly healthy before this eclamptic attack the incidence of hypertension was 10·3% and that of albuminuria nil.

PATHOLOGY AND BACTERIOLOGY

Prognostic Significance Of Icterus Index In Lobar Pneumonia

Mallick and Singh (*Indian Medical Gazette*, Sept., 1937, page 538) report on the study of icterus

indices in 13 cases of lobar pneumonia. These cases fall under 3 groups. In the first group of six cases the indices were 26, 35, 17, 21, 19, 36 respectively (normal being from 3 to 6). All these cases had profound toxæmia and the last one had cyanosis in addition and died within 8 hours of admission. Of the two cases in this series that recovered one had lung abscess. In the second group of five cases the indices were 5, 8, 8, 8 and 6 respectively—none had toxæmia and none of these died. In the third group of two cases who had their indices as 17 and 21 none had toxæmia and none died and the authors explain this by the fact that their livers got damaged otherwise and not by pneumonia. However, these results show that icterus index is a reliable guide to determine toxæmia in cases of lobar pneumonia.

A Comparative Study Of Oral And Subcutaneous Vaccination Against Typhoid Fever Based On Agglutination Test

Moor and Brown (*The Journal of Laboratory and Clinical Medicine*, Sept., 1937, page 1216) in reporting on the comparative study of oral and subcutaneous vaccination against typhoid fever based on agglutination test observe that the vaccine when given orally produces in a shorter period of time as great or greater concentration of agglutinating bodies in the blood serum of human beings as the vaccine given subcutaneously. This study was made on 187 patients and agglutination titrations were made in all cases before the vaccine was administered and again four weeks after the last dose. The oral vaccine, according to the authors, is economically and practically more desirable than the subcutaneous one.

Visceral Pathology In Measles

Degen (*American Journal of Medical Science*, July, 1937, page 104) in reviewing the study on the pathological changes in 100 fatal cases of measles observes that no lesions definitely pathognomonic of measles were found. Pneumonia and inflammation of the upper respiratory tract were the constant changes found but the pneumonia even was not of a single type. Microscopic examinations showed evidence of severe toxic and infectious process, the frequent finding being an interstitial mononuclear infiltration. Bacteriological study at necropsy revealed the hæmolytic streptococcus in preponderance either alone or in combination with other organisms.

Pathogenicity Of Trichomonas Vaginalis

Mohr (*Zeitschrift f Geburtshulfe u Gynakalogie*, June 18, 1937, page 155) in reporting his observations on the pathogenicity of trichomonas vaginalis points out that in 212 healthy women (without any symptom) examined by him the incidence of the organism was 62% (41% by microscopic test and 21% by culture), that 52·6% of the women without vaginal discharge were carriers of those organisms and that 29% of the women with vaginal discharge were absolutely free from them. The author further notes that they produce no glycogen decomposition and practically no sugar fermentation. He concludes by saying that they are not pathogenic organisms.

PEDIATRICS

Vitamin B_1 Deficiency In Infancy

Price (*Archives of Disease in Childhood*, August, 1937, page 213) writes that bottle-fed babies and babies fed exclusively on milk receive deficient amount of B_1 vitamin and a large number of symptoms occurring in them are attributed to the shortage of vitamin B_1. These symptoms simulate symptoms of infantile beri-beri and they are vomiting, constipation, fretfulness, restlessness, colicky pain, paleness of face, etc. The author maintains that Vitamin B complex is useful in these conditions for (1) it increases the muscle tone of the gastro-intestinal tract and corrects anorexia and constipation, (2) it acts as a catalytic agent in the completion of carbohydrate metabolism and its deficiency causes accumulation of lactic acid and other toxic products of metabolism causing fatigue, atony, etc., and (3) it helps in the proper growth and development of lymphoid tissue and in its deficiency the latter atrophies producing (a) in the bowel impaired assimilation of food and (b) generalized lymphopenia. These facts prove conclusively that the addition of vitamin B_1 to the diet of infants and children will cause an increase in the appetite and assimilation and utilization of food and thereby produce an increase in their weight and height.

PRENATAL SYPHILIS AND ITS TREATMENT

Cole (*Journal of American Medical Association*, August 21, 1937, page 580) discusses in the paper the historical review, the clinical and pathological pictures, the differential diagnosis and treatment of prenatal syphilis. The best treatment he points out is prophylaxis. If a pregnant syphilitic mother receives plenty of arsenical therapy and mercury throughout her pregnancy, generally a normal child is born. If the child is born with prenatal syphilis it is better that he is started at once with arsenical treatment. Neoarsphenamine from 0·01 to 0·015 gm. per kilogram is injected either intravenously in the jugular vein or given as a subfascial injection under the scalp in the parietal region or sulfarsphenamine is injected intramuscularly in the buttock. A course of eight weekly injections is usually employed to be followed by a series of bismuth injections intramuscularly (oil suspension of bismuth salicylas 2 mgm. per kilogram). A year's therapy of this sort of alternating injections (about 25 of each preparation) is usually sufficient. If W. R. is still positive at the end of the year a further course of treatment for six months or a year is necessary.

For older group of children (6 to 8 years) with ostitis, periostitis, interstitial keratitis and involvement of the central nervous system alternatng course of arsenic and bismuth with no rest periods between the courses is all that is necessary. Pot. Iodide may be used except in cases of acute interstitial keratitis.

In still older group of children around puberty interstitial keratitis, eighth nerve deafness, and central nervous system involvement are great problems and require careful handling. In addition to arsenical therapy foreign protein therapy, malaria and heat cabinet therapy must be tried. Tryparsamide must not be used in little children as it is often difficult to elicit in them the effects on the optic nerve.

IV U.P. MEDICAL CONFERENCE, BENARES

The IV U. P. Medical Conference held at Benares on the 17th and 18th October, 1937, was a great success. In spite of the efforts of some interested persons to create trouble and thus spoil the meeting, there was a record gathering of medical men and women from all over the Province. The various items on the programme were gone through smoothly. Goodwill and co-operation among all sections of the profession, *viz.*, service men, graduates and licentiates prevailed all through. The delegates and visitors were put up at Mint House of H. H. the Maharaja of Benares where the Conference took place on the 17th and 18th October, 1937.

On the 17th instant at 12-15 p.m., the Hon'ble Mrs. Vijai Lakshmi Pandit, Minister, U. P. Government, opened the Exhibition and H. H. the Maharaja of Benares opened the Conference at 12-30 p.m. The Chairman of the Reception Committee Capt. S. K. Chowdhury of Benares delivered his Welcome Address which was followed by the Presidential Address of Dr. Abdus Samad, B.A., M.B., M.L.A., of Cawnpore. After the presidential address, messages of goodwill were read from medical men from all over the Provinces who could not attend the Conference. Then the Subjects Committee was formed and the Conference was adjourned till the next day.

Many interesting papers on medical subjects were read and discussed by prominent medical men and women.

A dinner on the night of the 17th instant was given by the Reception Committee, which was attended, amongst so many important persons, by the Hon'ble Mrs. Vijai Lakshmi Pandit.

During the course of the after dinner speech, she described the appalling conditions of the medical relief and hospitals in U. P. and expressed her hope to do her best to mend matters. She also welcomed the co-operation of the Indian Medical Association in these matters.

On the 18th instant some important resolutions were passed at the open session of the Conference.

OPENING ADDRESS OF H. H. THE MAHARAJA OF BENARES

Ladies and Gentlemen,

It gives me great pleasure to associate myself with the inauguration of the IV U. P. Medical Conference. It affords me an opportunity of greeting personally many distinguished members of the medical profession from all over the Provinces and extending to them a most warm welcome to Benares. It is the most remarkable gathering of scientific men and women since the All-India Science Congress was held in this city a few years ago, the difference being that while the Science Congress embraced almost every branch of applied science, including medicine, this Conference is concerned with Medical Science alone.

A conference like this has a special value for those who are directly concerned with it; it has also an indirect but none the less vital interest for the great public which the medical profession so nobly serves. I refer to the scientific deliberations which will form the most important item of your programme and the ultimate results. Discussions and exchange of views based upon the personal experiences of doctors engaged in general practice and specialists are of great help in pooling professional knowledge and bringing it up-to-date. To my mind this aspect of the usefulness of a medical conference has the greatest significance for the profession as well as for the lay public. May we also hope that an organised body like the U. P. Branch of the Indian Medical Association, of which this Conference is an annual fixture, will further prove its utility by making itself indispensable as an advisory body to the Provincial Government in its activities for the promotion of public health and hygiene and the improvement of sanitary conditions in the large towns and rural areas?

Ladies and Gentlemen, I shall detain you no longer. I now declare this Conference open and wish it all success.

ADDRESS OF CAPT. S. K. CHOWDHURY,

CHAIRMAN, RECEPTION COMMITTEE,

Your Highness, the Hon'ble Mrs. Pandit, Dr. Abdus Samad, ladies and gentlemen,

It is a happy augury that the IV U. P. Provincial Conference has been opened by His Highness the Maharaja of Benares. He is not only the Patron of the Medical Association, which has invited this Conference to meet in this ancient city but also a benefactor of numerous useful institutions scattered over in these provinces. The evidence of generosity of the House of Benares in every noble cause as well as that of the personal solicitude of the present Ruler for public welfare is too well known to be mentioned on this occasion, but we should be failing in our duty if we did not acknowledge with gratitude the encouragement and sympathy we have received from His Highness while organising this Conference. The endeavours of the Reception Committee would have been futile had His Highness not accorded his moral support to the promoters and placed at their disposal this fine building, which, by the way, was used as a war hospital during the Great War.

I consider it a great privilege to welcome you, on behalf of the Medical Profession, to Benares, a city easily one of the most ancient in the world. Dr. A. S. Altekar, a well-known authority in ancient history and culture, says in one of his recent publications "According to the Pauranic accounts the dynasty ruling in Benares was founded by Pururavas, one of the grandsons of Manu. The seventh king in the genealogical list is Kasa, after whom the district or kingdom of Kashi came to be named. A few generations later comes a king named Dhanwantari, and the Vayu Purana identifies him with the founder of the Ayurveda probably on account of the sole reason of the resemblance of his name with that of the presiding deity of the medical science." It is difficult to ascertain at this distant date the historical truth, but it is an undoubted fact that the Ayurveda has flourished in and about Benares for ages past and to this day claims this place as its stronghold. Apart from its association with the ancient medical lore, this sanctified city, girdled as it is with the glorious sweep of the Ganges, has been either the birth place or nursery of many a phase of the Aryan culture. A fair number of religious cults has thriven here, not the least important of which are the undying doctrines preached by Gautam Buddha. Benares, one of the greatest centres of learning in the dim ages of the past is trying to regain its former importance by nourishing in its bosom the young Hindu University and infusing new life into the ancient Sarnath. Who knows, the light emanating from the East will once again brighten the dark corners of human life which a materialistic civilization from the West has hitherto failed to illumine!

The remote past furnishes a tradition which should stimulate us to activity. What we do to-day and to-morrow should receive our earnest consideration. It is by looking into our shortcomings that we can learn to amend them. This gathering will give us an opportunity of examining whether we have made substantial progress since we met last year at Allahabad. Have we, by our organised efforts, made ourselves useful as advisers in matters of medical, surgical and obstetrical aid and sanitary reform, under the present Government? Have we planned a campaign against unemployment in our own ranks? Have we safeguarded the families of medical men from privation when they die without having made a provision? I am afraid the answers to these questions and others of no less importance will be found unsatisfactory.

If our future plans are to be so designed as to yield the best results to the public we serve without jeopardising our own interests we must set about making careful preparations at the present moment. Whatever we propose doing it is certain that to achieve success organised and concerted action is necessary. Witness the amount of work done by the British Medical Association since its inception and the influence it wields to-day in the far flung British Empire. A similar position will be assured to the Indian Medical Association in our own country if all of us unite and bring our conjoint strength to bear

upon the public. All provincial branches and the bodies subordinate to them have to strengthen their own positions by enlisting all qualified practitioners living in their jurisdictions as members, attend to their peculiar necessities and, above all, co-operate with the parent body.

I have no doubt under the able guidance of our President who enjoys the confidence of his constituency in the Legislature, the present year will see an advancement in every phase of our activity, by drawing together into a closer bond of union the soldiers who fight against human suffering.

PRESIDENTIAL ADDRESS BY DR. ABDUS SAMAD, B.A., M.B., M.L.A.

Ladies and Gentlemen,

I warmly thank my brothers and sisters in profession for the honour they have done me in electing me as the President of this Association. To confess the truth I was quite taken aback when first I heard that I had been singled out to shoulder the responsibility this year. I am quite new to public life being entirely given up to my profession, working among the poorest of the poor all these years. I accepted it simply because I could not disobey the orders of my respected elders.

The problems requiring solution by the medical profession in our province are many and varied, specially at this juncture when a popular Government has taken over charge of administration. To help the poor the Ministers have set an example of self-sacrifice. Most of them belong to the money-making professions and have given up a lucrative practice only to help their poor suffering brethren. It is but right that we should follow their example and do something for the poor and the needy. Our primary duty to-day is to afford as large a measure of relief to the suffering millions as we possibly can. Let us put our heads together and evolve practical schemes for the betterment of the health of our poor brethren—schemes for the prevention of their diseases and for their cure when the diseases have already taken hold of them. From my short experience of the working of the Provincial Assembly, I am sure that the Government will only be too glad to consider suggestions calculated to ameliorate the conditions of the poor and the distressed. We know too well that even in large towns in India the provision of medical aid is much too inadequate as compared with what is to be found in most of the civilised countries. The hospitals are few and those that are, cannot for want of accommodation cope with the large number of sick people that require hospital treatment. The condition of rural areas is simply appalling.

There is, of course, a pretence of medical aid in the villages. In a large *pargana* we find a small place which passes for a branch dispensary meant to serve a large area extending over hundreds of square miles with a population of many thousands of people. In a dirty unfurnished house—dirty from our surgical point of view—you may find a serious surgical case lodged in a verandah. It is a sad spectacle. Even such dispensaries are far between—a case of renal colic may die of agony before a medical man could be had to give an injection of morphia or a case of cholera may die of collapse before the officer-in-charge could come and give saline. Medicines provided for the treatment of diseases are few and very insufficient. Quinine, the most necessary drug, is a luxury in villages; its place is sometimes taken by *Chiretta* which all of us know is a make-believe treatment for malaria.

As to prophylaxis, there is the public health department but what it does for the relief of the poor is known to all. The greatest scourge of the rural areas is malaria, but the measures taken to combat it are next to nothing. Epidemics of cholera break out and take a heavy toll of human lives. Very little has been done so far to ensure the supply of good drinkable water to the villager. The village pond is still a source of water supply to many a poor villager. Surely if tap water cannot be supplied to them they can be furnished with clean wells which can be disinfected during an epidemic.

Practitioners who have worked in large towns can hardly form an idea of the great distress caused

by many curable diseases among villagers. You can form some idea if you visit a relief camp after an earthquake or a flood. You will find more than half the people with large spleens—people who could have been spared to work for their poor families if a little quinine had been administered to them when they first caught the disease. Children with bad eyes bid fair to lead a blinded life as they grow old: granular conjunctivitis combined with filth and dirt has already damaged their vision. There is nobody near their house to clean their eyes and give them the simple treatment which might save their eyes. A large number of people with cataract go blind all their lives because there is nobody to remove the blinding lens. I have dwelt at length on the condition and needs of the sick villager so that we may realise the neglect on the part of the people who could do something for them. Let us now think out means to give relief to these unhappy people. There is not enough money in the provincial exchequer to build a hospital in every group of villages. What substitute can we suggest? I happened to meet a retired civil surgeon of our province who has wide personal knowledge of the sufferings of the villager. His suggestion was that we must parcel out the entire rural country into small areas. We should ask our young medical men who come out of colleges and schools to take such areas under their charge. They can be subsidised by the government. The young man will establish himself in the centre of this area and mark out his sphere of activity in six radiating lines along which he can go out on the six days of the week and come back to his place of residence giving relief to the people he comes across during his excursions. The small subsidy will enable him to provide some medicines and instruments with which he can give much relief to the villager as he goes on his daily rounds. Government must keep a watch on these workers. The young men should be expected to work in a missionary spirit. Their devoted labours in these far-off villages will be amply rewarded by the practical experience that they thus acquire. Government should in future agree to take recruits for medical service from these people who have proved their worth by working among the poorest of the poor. I commend this scheme to your serious consideration and I hope you will formulate definite proposals on these lines.

I have so far confined myself to the conditions and requirements of the rural area, for the peasantry not only forms a large majority of the population but also constitutes the backbone of the ultimate prosperity of the entire population. Apart from humanitarian considerations which we as medical men will be the last to disregard, it must be recognised that the efficiency and output of villagers depend on their health which calls for proper sanitary conditions and adequate provisions of medical assistance. I have no doubt that this Conference will not fail in its duty towards this helpless and suffering section of humanity. Here I also wish to draw your attention to another serious deficiency which accounts for the ill-health of the rural population. This Conference should investigate into the nutritive value of the foodstuffs consumed by villagers. The food they eat lacks in nutrition with the result that their disease-resisting power has gone down. This question brings us face to face with the problem of the general poverty of peasants, which, however, falls outside the purview of this Conference and can only be tackled and satisfactorily solved by Governments and their department of rural development. We can only act as advisers in so far as the expert knowledge of dietetics is concerned.

I shall now pass on to consider the question of hospital accommodation in cities and towns. The insufficiency of hospital accommodation in urban areas is too well known to be dilated upon. It is a moving sight to see so many poor people requiring medical treatment which they cannot pay for being refused admission into hospitals for want of accommodation. Expansion of hospital accommodation is a crying need in the cities. More hospitals should be constructed and the existing ones enlarged, so that no sick person, male or female, young or old, who cannot afford private treatment may be refused admission into hospitals. Besides accommodation there also exists considerable dissatisfaction with the whole system of hospital administration and the treatment meted out to the poor people. Complaints of incivility and lack of sympathetic attention on the part of hospital attendants are often heard. It is well known that people who can ingratiate themselves with the attendants get better treatments and facility than those who are really needy. The plight of *pardah* women is indescribable. Much can be done

by surgeons and assistant surgeons who are in charge of hospitals to rectify these malpractices which constitute a slur on the fair name of the medical service. The present provincial government soon after taking over charge impressed on all the services under them that they must look upon themselves as servants rather than masters of the people and act in the spirit of service henceforward. Will it be too much to expect that the public health department will not fail to catch the new spirit of service which seems to be permeating the various departments of government and set a high example of integrity and efficiency? Government have recently accepted a resolution passed by the legislative assembly recommending the appointment of a committee to devise ways and means for the suppression of corruption and bribery in government departments. It is to be hoped that conditions in public hospitals will also be looked into and remedied to the satisfaction of the public. It is sometimes contended that there are not enough surgeons to cope with the heavy amount of work in hospitals.

One way of meeting the difficulty is to attach honorary surgeons to hospitals. There are honorary surgeons at present but they cannot do effective service unless they are invested with some sort of supervisory powers. As things are they are not listened to and their directions go unheeded. Their association with hospitals can only prove useful if they can supervise the work of the hospital staff with some authority and their recommendations, based as they are on intimate contact with the public and its difficulties, are treated with the same respect as is paid to orders of officers in authority.

Closely allied with the questions discussed above is the problem of proper medical education which is obviously the pre-requisite of all medical service and aid. There are at present many restrictions on medical education and unless these are removed we cannot expect to get a regular stream of well-equipped medical products to deal with vast numbers of people in towns and villages crying out for medical relief. In our province there is only one Medical College and a strictly limited number of candidates is admitted to it on the result of a competitive examination. The medical course is a hard nut to crack and at the end of each year a small number of graduates comes out which is incommensurate with the population of the province. It is my considered opinion that restrictions of admission to medical colleges and schools should be relaxed so as to permit a large number of competent young men to qualify as physicians and surgeons. But while I plead for extension of scope for medical education I must not be misunderstood to advocate mass production of medical graduates. I am a firm believer in high standards of instruction and examination in all branches of learning, the more so in medicine. I want Indian Universities to ensure that their medical degrees are as valuable as those of any other universities in the world, and I am sure the Indian medical graduate does not compare unfavourably with the ordinary degree-holders of medical colleges in other parts of the world. That is all the more reason why I want our medical colleges and schools to extend the benefit of their training to larger and larger numbers of promising young men of our country who could take upon themselves the duty of alleviating the pain and sickness of our suffering countrymen. Thinking persons have begun to doubt the validity of competitive examinations as a means of testing the candidate's fitness for a particular kind of work or for receiving a particular kind of training. While I have nothing to say against the kind of education imparted in medical colleges I cannot speak with enthusiasm of the teaching and training in medical schools. There is considerable room for improvement in medical schools. Unless this is done respect for this section of the medical profession and faith in their competence cannot be ensured. I hope that steps will be taken in the near future to satisfy the demands of the Licentiates in medicine who form such an important part of our profession in this province.

In this connection I should also like to refer to the invidious distinction made by the British Government as between members of the I. M. S. and foreign degree-holders on the one hand and of members of the provincial service and products of Indian Universities on the other. I am fully aware of the deep resentment among medical men over this indefensible discrimination. I tried to obtain certain facts and figures from the U. P. Government regarding the position of I. M. S. in our province but I have not received any information so far. This association has already registered emphatic protest

against the dumping of I. M. S. men in the province over the head of our own qualified men. Indian physicians and members of the provincial service have proved their mettle both as medical practitioners and administrators. One argument advanced in favour of the retention of the I. M. S. is that their presence is necessary in the interests of British officers and European residents who prefer to be treated by I. M. S. men. The argument does not hold any longer. The bulk of Europeans whether engaged in the services or industries have no such scruples any longer. I can say from personal experience that most Europeans have no objection to being treated by Indian physicians. In fact, they freely avail themselves of the services of the Indian physician if they find him to be competent, and the competence of Indian physicians in large towns where Europeans usually dwell is now beyond question.

Recently there appeared in the press a summary of the report of Dr. Anderson, Secretary to British Medical Association who toured India sometime back. Dr. Anderson speaks of the plight of Indian doctors who, he says, 'find it impossible to make a living owing to the over-crowding of the profession and the low fees, also owing to the competition from practitioners of indigenous systems of medicine and all kinds of quacks.' The state of affairs is certainly perturbing. But the remedy is not impossible to seek. The distress of doctors is due, in a large measure, to their concentration in large towns. If they could resist the lure of life in big cities and spread about in smaller towns and villages the problem of their bread and butter will be partially solved. Their difficulties will be solved all the more effectively if the scheme of medical aid in rural areas, adumbrated above is given a trial and put into operation. The competition from practitioners of indigenous systems need not scare our young medical graduates. If they work with zeal and determination and a certain amount of willing self-sacrifice they are bound to make headway in life.

It must be admitted with regret that our medical ethics to-day is not what it should be. If there is any profession in which ethical considerations should supersede all other considerations it is our medical profession. We in India have ancient traditions of willing and enthusiastic service on the part of physicians without any desire for monetary remuneration. Shall we betray our proud heritage and lose ourselves in the welter of blind materialism? We must realise that the criterion of respect and esteem for a doctor should not be the possession of material wealth. It is not the doctor who charges fat fees and keeps himself aloof from common people that should be honoured; it is the doctor who does the greatest good to the greatest number that deserves to be held in high veneration and esteem. If we can bring about a change in our outlook and purge ourselves of the money-motive we would be doing a great service to our country; for we will thus be able by our example to bring about a psychological revolution in the country which might well lead to national emancipation. I do not mean to suggest that we should have no use for money, for that is only possible if all of us become disembodied spirits. We have our families and dependents to look after. Every one must earn his legitimate living. What I mean to say is that out of our earnings from the rich we should be prepared to spend something on the relief of the poor. No doctor worthy of his profession should ever refuse to attend to a patient merely because he is unable to pay. Let us therefore formulate our medical ethics on the basis of the highest humanitarian principles and bind ourselves to the ethical code as if it were a religious obligation. It is in this way alone that the stigma attaching to our name will be removed and our brothers and sisters will be able to go about in all parts of the world with their heads erect. There is one thing more which we should guard against. From our brotherhood we must eschew all party politics. During the Civil War in England towards the end of the 17th century the Roundheads and Royalists broke one another's heads in the streets but when they met in professional conclave they sat and deliberated as brothers untainted by the political wrangles outside. The same spirit should inspire our actions.

To a world torn asunder by passion and prejudice, greed and avarice let the medical men bring solace, peace, and harmony and save humanity from an imminent catastrophe.

RESOLUTIONS PASSED AT THE OPEN SESSION OF THE CONFERENCE

1. Resolved that this Conference expresses its profound grief at the sad demise of the following members of the medical profession and conveys its sympathy to the bereaved families:—

(1) Major H. K. Datta, Mussoorie.

(2) Dr. K. L. Chowdhury, Late Director of Public Health, U. P., Lucknow.

(3) Dr. B. G. S. Acharya, Late Professor of Ophthalmology, King George's Medical College, Lucknow.

(4) Dr. S. Mitra, Allahabad.

(5) Dr. A. G. Nahrain, Leper Asylum, Naini.

(6) Dr. Janki Prasad, Agra.

Resolved further that copies of the above resolution be sent to the members of the bereaved families.

2. Resolved that this Conference considers the recent orders of the U. P. Government requiring qualified medical practitioners to obtain license for the profession and sale of Pot. Chlorate as an uncalled for encroachment on the rights of qualified medical practitioners and requests the Government to exempt medical practitioners possessing registrable qualifications from the operations of this order as Pot. Chlorate is a necessary drug of common daily use in medical practice.

3. *Reorganisation of Medical Relief in U. P.*

Resolved that this Conference approves of the scheme proposed by the U. P. Provincial Branch of I. M. A. in general.

Further resolved that a committee consisting of the following gentlemen with power to co-opt more members if necessary be appointed to elaborate this scheme still further, if they think necessary and they should then wait on the Hon'ble Minister of Health, U. P., to explain to her the viewpoint of the profession in favour of the adoption of the Scheme:—

(1) Dr. Abdus Samad, Cawnpore.

(2) Dr. Bhupal Singh, Meerut.

(3) Dr. S. K. Chowdhury, Benares.

(4) Dr. H. N. Shivapuri, Jhansi.

(5) Dr. S. C. Acharya, Deoria.

(6) Dr. R. N. Banerji, Allahabad.

(7) Dr. R. N. Bose, Meerut—*Convener.*

(8) Dr. Bolar Thungamma, Benares.

(9) Rai Bahadur Dr. B. N. Vyas, Lucknow.

4. Resolved that this Conference condemns the Government of India's Scheme of reorganisation of the I. M. S. as announced in the recent Resolution No. 205, dated 25th March, 1937, which instead of abolishing the Civil side of the I. M. S. as recommended by the Services Sub-Committee of the first R. T. C., has thought fit to perpetuate the Civil side and has thus hampered the legitimate growth of the medical services of India envisaged by full provincial autonomy.

Further resolved that this Conference lodges its emphatic protest against this retrograde scheme as it

(1) maintains gross racial discrimination,

(2) perpetuates the doctrines introduced by the Lee Commission,

(3) almost doubles the personnel of the British Officers in proportion to the Indians, whose cadre has been reduced, and

(4) perpetuates unfair and distinctive system of recruitment to the I. M. S. by nomination and selection instead of the just method of pure and simple competition for all classes of applicants.

This Conference also reiterates the oft-repeated demand of the complete abolition of the Civil side of the I. M. S.

5. Resolved that this Conference reiterates its request to the Hon'ble Minister in charge, Medical Department, to amend the U. P. Medical Council Act in the light of the recommendations contained in Resolution 5 passed at the U. P. Medical Conference held at Meerut on the 11th and 12th October, 1934.

6. *Representation of Medical Men on Municipal and District Boards.*

Resolved (a) That, in the opinion of this Conference, representation of medical men on the Municipal and District Boards is essential in the interests of Public Health and Sanitation as medical men independent of party tickets will be in a position to deal freely and independently with such questions.

(b) That the Government be requested to provide special seats for representation of Branches of the I. M. A. in U. P. on these bodies.

7. *Representation on the Governing Body of State Medical Faculty, U. P.*

Resolved (a) That, in the opinion of this Conference, it looks anomalous that the franchise to elect 2 representatives of independent medical practitioners to the Governing Body of U. P. State Medical Faculty should be in the hands of people who do not belong to the independent medical profession;

(b) That the Government be requested to transfer the right to send these representatives of the independent medical profession to the voters concerned namely private graduate medical practitioners in U. P.

8. *Lunacy Act.*

Resolved that the Hony. Secretary, I. M. A., Calcutta, be requested to again put forward the demand of getting Clause 1 of Section 5 of Lunacy Act IV of 1912 and Clause 8 of Section 3 of that Act amended by the Government of India in the light of Resolution No. 6 of II. U. P. Medical Conference held at Cawnpore in 1935.

9. *Medical Certificates.*

Resolved (a) That, in the opinion of this Conference, the present Government regulations regarding medical certificates in case of illness, for vaccination and for fitness for Government services and admission to various institutions and demanding countersignatures of Civil Surgeons are not fair to the registered medical practitioners and imply distrust of them by the Government.

(b) That the Government be requested to issue orders to the departmental heads to accept certificates in case of illness or for physical fitness signed by a registered medical practitioner for non-gazetted officers and by 3 registered medical practitioners for gazetted officers. Certificates for vaccination should also be accepted if signed by a registered practitioner giving his registered number and the name of the Council with which he is registered.

10. *Minimum Standard of Medical Education.*

Resolved that in the opinion of this Conference it is high time that a minimum standard of qualification for recognition by the Indian Medical Council be laid down and in order to enable the products of Medical Schools such as Agra Medical School to be recognised, the standard of education in Agra and other Medical Schools be suitably raised accordingly.

11. *Indian Medical Council Act.*

Resolved that as the present Indian Medical Council Act excludes a large number of qualified medical men possessing registrable qualifications in the various provinces of India from its purview and thus imposes a great disability on them, this Conference is of opinion that the act should be amended to include all grades of qualified medical practitioners in its fold and to ensure reciprocity with the medical authorities of other countries.

12. *Quackery.*

Resolved that this Conference notes with concern the increasing evil of quackery in U. P. where all sorts of suffixes and prefixes are being assumed freely by unqualified persons to advertise themselves as qualified medical men and requests the Government to take necessary measures to protect the public and the profession from the consequences of this evil.

13. Whereas in the interests of the Public Health it is highly desirable to ensure uniformity of composition in the case of Biological products such as Sera, Vaccines, other special and proprietary medicines and whereas it is necessary to provide a check on the extravagant claims put forward on behalf of the patent medicines, it is hereby resolved that Central and Provincial Governments be requested to start at a very early date a Central Analytical Laboratory and a Provincial Laboratory in each

Province as suggested by Col. Chopra's Drug Enquiry Committee to test such preparations from time to time and to report to the Government all cases where the medicines are found to be below the standard of the advertised specifications for taking proper action. It is suggested that the expenditure involved in the establishment of laboratory or laboratories may be met by a cess on the manufacturers of the patent medicines as in the case of tea, jute, etc., and similar duty be put on the imported patent medicines.

14. This Conference resolves that the local Governments of different Indian Provinces be requested to take effective steps for controlling and regulating the public advertisement of patent and proprietary medicines. This Conference holds the opinion that in addition to the name of the patent medicines and manufacturer's name, their composition must be mentioned on the labels, but no description of their properties should be allowed to be advertised excepting in the medical press.

15. Resolved that this Conference puts on record its respectful thanks to H. H. the Maharaja of Benares—the Patron of the Benares Medical Association (Branch of I. M. A.) for all the help and support by His Highness to make the Conference a success.

16. Resolved that this Conference places on record its grateful thanks to the Hon'ble Mrs. Vijai Lakshmi Pandit, Minister for Local Self-Government and Public Health, for opening the Medical Exhibition and gracing the Conference by her presence.

17. Resolved that this Conference thanks the Chairman, office-bearers and members of the Reception Committee and the members of the Benares Medical Association for the excellent arrangements by them in making the Conference at Benares a great success.

18. This Conference thanks Messrs. Indian Medical Supply Laboratory, Ltd., Lucknow, for their entertainment to the members of the Conference.

The Conference also thanks those firms who have participated in the Exhibition.

19. This Conference offers its most cordial thanks to Dr. Abdus Samad, B.A., M.B., M.L.A., for presiding at the Conference and to delegates who have come to the Conference at great personal inconvenience and expense.

ASSOCIATION NOTES

Minutes or proceedings of Branches and Affiliated Societies intended for publication should be sent to the Secretary of the I. M. A. at the Headquarters, 67, Dharamtala Street, Calcutta—EDITOR.

DEORIA MEDICAL ASSOCIATION

The 11th monthly general meeting of the year was held on the 6th September, 1937, at 2 p.m., at the residence of Dr. (Mrs.) A. Richards, Deoria. The President Dr. H. N. Bhatt occupied the chair.

Nearly all the members were present. It was decided to observe the 20th September, 1937, as the All-India Anti-Medical Council Day, in response to the desire of the General Secretary, All-India Medical Licentiates Association, communicated to us by the Joint Honorary Secretary, I. M. A., Calcutta.

The President then described, in detail, the acquiring of a plot of land for the Association building and said that there will be a little delay in actually possessing the land in question. He specially thanked Dr. Bhupal Singh for his personal generous donation of Rs. 50/- to the building fund, which has formed its nucleus. The following resolution was moved from the chair and passed unanimously:—

" This Association warmly thanks Dr. Bhupal Singh, Secretary, I. M. A., U. P. Branch for the offer he has made for the financial help towards the funds of this Association for constructing its own building."

The following resolution of Dr. S. C. Acharya was next unanimously passed:—

" Be it resolved that this Association places on record its deep appreciation of the immense good work done by Dr. H. N. Bhatt, the present Chairman in the welfare of this Association.

Further it wishes its heart-felt felicitation and *bon voyage* on his going abroad for prosecuting further higher qualifications."

A group photo was then taken of all the members. The house next nominated Dr. B. C. Roy of Calcutta for the Presidentship, I. M. A. and Drs. A. Sayeed, B. Thangamma and Ram Narain Lal for Vice-Presidentships for the next session.

Dr. B. B. Srivastava read a paper on Early Diagnosis of Pulmonary Tuberculosis, while Dr. H. N. Bhatt spoke on Medical Ethics and congratulated Dr. A. K. Roy on his recent happy marriage. The meeting then came to a close with thanks to the chair.

Dr. Richards was At Home to the members after the meeting.

* * *

A protest general meeting was held on the 20th September, 1937, at 3-30 p.m., at the residence of Dr. S. N. Mukherji, Deoria, to observe the day as the All-India Anti-Medical Council Day. The Vice-President Dr. S. C. Acharya was in the chair.

Discussing the non-recognition of the Indian Licentiates by the Indian Medical Council, Dr. S. L. Vidyarthi said that the latter body wanted some conditions to be fulfilled by the licentiates first before their recognition by them. Referring to the *Leader*, dated the 5th September, 1937, he said that those conditions were all fulfilled. When they recognised the English licentiates why should they not be recognised by them? While discussing other important points, he said that licentiates had produced men like Drs. Mogo, Sarju Prasad, Hari Singh Bhist and M. S. Narsingham. The Chair pointed out that Dr. Sir Nil Ratan Sarkar was an L. M. P. first. He was emphatic in saying that should the Indian Medical Council give the licentiates the chance to come into the field and compete and they would then show their worth.

Dr. B. N. Sahai corroborating the statement of Dr. Vidyarthi mentioned the names of Drs. Tasadduk Hussain and Ismail Khan who were L. M. P.'s first.

The following resolution was then moved from the chair and passed unanimously:—

" Whereas the L. R. C. P. & M. R. C. S. of England, in spite of their same status and qualifications as that of the Indian Medical Licentiates, have been allowed the privilege of entering into the Indian Medical Council, it is grossly unfair, improper and unjustifiable on the part of the authorities concerned to shut the doors against the entrance of the Indian Medical Licentiates into that body, and

"Whereas it is clearly evident that keeping in view the interest of England in the forefront, the Indian Medical Council has stepped into the shoes of the British Medical Council of England and given preference to England over India, and

"Whereas in these days of democracy while discrimination of classes and communities is fast disappearing, throwing the doors wide-open for the suppressed and oppressed of the country to give them equal footing, it is most inconsistent with the politics of the day that the Indian Medical Council will stick to the old worn out policy of ' divide and rule ' and divide in fact the entire Indian Medical profession into two airtight compartments of touchables and untouchables,

"Therefore the Deoria Medical Association condemns unequivocally with all the forces at its command the reactionary attitude of the Indian Medical Council towards the licentiates and resolves unanimously to observe the 20th day of September each year as an Anti-Indian Medical Council Day until and unless the grave injustice and wrong done to the Indian Medical Licentiates are not redressed."

Dr. Mukherji was At Home after the meeting.

S. N. MUKHERJEE,
Hony. Secretary.

SHOLAPUR BRANCH

The following resolution was unanimously passed at a special meeting held on 20th September, 1937 to discuss the difficulties of the medical profession regarding dangerous drugs:—

> This meeting of the Indian Medical Association, Sholapur respectfully invites the attention of the Government of Bombay to the crippling and annoying difficulties the medical profession is subject to, owing to the operation of the rules restricting the possession and transit of dangerous drugs, entailing delays in deliveries, inconveniences of keeping daily accounts, to escape which a large number of practitioners desist from possessing any cocaine, with consequent suffering to the public and earnestly requests the Government to modify the rules and regulations, facilitating the free use of such drugs by the profession, and begs to suggest that the excise office in a district place and large taluka cities should be instructed to import dangerous drugs for the medical profession whenever they require from firms of the choice of the profession.

* * *

At a special meeting held on 20th September, 1937, the following resolution regarding the separate registration of graduates and licentiates was unanimously passed:—

> This meeting of the Indian Medical Association, Sholapur, disapproves the Indian Medical Council Act of 1933 for adopting separate registers for the graduates and licentiates and earnestly requests the Indian Legislative Assembly, that immediate steps should be taken to place both on the same register, after moving the provincial Governments to make necessary improvement in the education of the Licentiates so as to enable the Medical Councils of all provinces to adopt one register for both the graduates and the licentiates without loss of privileges enjoyed by the former in foreign countries.

B. V. MULAY,
President.

GONDA BRANCH

At a joint meeting of the Indian Medical Association, Gonda Branch, held on 20th September, and presided over by Dr. P. C. Mukherji, L.M.S., the following resolution was unanimously carried:—

> Resolved that this joint meeting of the Indian Medical Association, Gonda Branch and the All-India Medical Licentiates Association, Gonda Branch, strongly protests against the disabilities of the Licentiates in the Indian Medical Council Act as at present constituted and requests the Government of India to amend it in the light of the representations of the Indian Medical Association and the All-India Medical Licentiates Association.

This resolution was moved by Dr. P. C. Mukherji, L.M.S., the President of the Indian Medical Association, Gonda Branch, seconded by Dr. Ram Badal Singh, L.M.P., the Secretary, the Licentiates Association and carried unanimously.

S. B. SINHA,
Hony. Secretary.

BARUIPUR-RAJPUR BRANCH

The following resolutions were passed in a meeting held on 20th September, 1937.

"Resolved that in full sympathy with our Sister Institution, *viz.*, the All-India Medical Licentiates Association and in accordance with the direction of the Mother Association, *viz.*, I. M. A., the 20th September, 1937, be observed as All-India Anti-Medical Council day."

"Resolved that a letter be sent to I. M. A. intimating them about our deepest regret at the decision of the Government of India in respect of the scheme of reorganisation of the I. M. S. and asking them to represent our views to the Government. By increasing the number and proportions of the Europeans in the Service they have acted contrary to India's aspiration for self-administration and have aroused suspicion in our mind regarding their good will."

"Resolved that in connection with the solution of the unemployment problem the following scheme be sent to I. M. A. for their consideration:

(a) Sanitary Inspectors and Vaccinator Inspectors, etc., be recruited from qualified medical men.

(b) Village anti-malarial work, child welfare and maternity works be organised by Government and Local bodies and that these be conducted under direct supervision of paid qualified medical men.

(c) Several charitable dispensaries be started by the Union Boards, District Boards and Municipalities in places where any sort of medical aid is wanting at present and qualified medical men be provided in such dispensaries.

(d) Government and other bodies be asked to enforce much more rigidly tea estate and coal mine authorities to employ qualified medical men for medical help and not to employ compounders for the purpose as is done in many cases."

"Resolved that this Branch has full sympathy with the purpose and text of the bill for Health Insurances to be presented by Mr. Shib Nath Banerjee, M.L.A., in the Bengal Legislative Assembly.

The following amendments are, however, suggested.

(1) As many medical practitioners as possible be provided under this Act.

(2) Provisions be made for any extra sum in addition to the sum as Sickness Benefit in case of need. As in certain diseases there may be a sudden need for money exceeding Rs. 4/- per week, it is imperative that in such cases on the basis of the Medical Certificate and on decision of the Insurance Commissioners more money be provided for.

The following are the nominations for the office of Secretary, Assistant Secretary and Treasurer of the Provincial Council:—

Secretaries—(1) Dr. Jogesh Chandra Banerjee, (2) Dr. B. K. Ghosh.

Asstt. Secretaries—(1) Dr. Krishna Chandra Chakraborty, (2) Dr. Sambhu Mukherji.

Treasurer—Dr. A. K. Chakraborty.

Shibdas Bhattacharyya,
for Secretary.

JHANSI MEDICAL ASSOCIATION

At a meeting of the Jhansi Medical Association held on September 20, 1937, the following resolutions were unanimously adopted:

" That the members of the medical profession in Jhansi record their emphatic protest against the defective constitution of the Indian Medical Council which, as at present constituted, is subservient to the interests of the General Medical Council of the United Kingdom.

"That the meeting requests the Government of India and the members of the Indian Legislative Assembly to amend the Act in the following respects so as to conform with the name, dignity and the functions of the Council.

(a) The maintenance of an All-India Register of qualified medical practitioners including the Licentiates.

(b) The securing of a uniform minimum standard of qualification in the medical schools and colleges of India as is prevalent in other countries and the consequential abolition of difference between graduates and licentiates.

(c) The recognition of non-Indian diplomas and degrees on principles of self-respect and reciprocity only.

(d) A larger number of elected members on the Indian Medical Council with an elected President."

H. N. SHIVAPURI,
Secretary.

HOOGHLY, CHINSURA & CHANDERNAGORE BRANCH

The fourth general meeting was held at its office "Sunny Bank," Chinsura, on Sunday, the 19th September, 1937, at 6-30 p.m.

Members present—Capt. J. C. Dey (Chairman), Drs. M. M. Chatterji, S. C. Ghose, P. C. Dutt, S. C. Guha, S. P. Ray, S. K. Sen Gupta, K. Seal, B. Chakraborty, K. C. Mallick, P. Shee, N. K. De, D. Ghosh, (Miss) L. Roy and Capt. K. N. Chatterjee.

1. The proceedings of the general meeting held on 19-7-37 and Executive Committee meeting dated 30-8-37, were read and confirmed.

2. The following persons were finally elected as office-bearers of the Provincial Council of the I. M. A. for the next year:

President—Sir Nilratan Sircar.

Vice-Presidents—(1) Dr. C. C. Basu, (2) Dr. N. R. Sen Gupta, (3) Lt.-Col. K. K. Chatterji.

Secretaries—(1) Dr. B. K. Ghosh, (2) Dr. J. C. Banerjea.

Asst. Secretaries—(1) Dr. K. Seal, (2) Dr. S. Mukherji.

Treasurer—Dr. A. K. Chakraborty.

3. Resolved that the Bill on Health Insurance of Mr. S. N. Banerji be referred for consideration to a Sub-Committee consisting of (1) Capt. J. C. Dey, (2) Dr. S. P. Roy, (3) Capt. K. N. Chatterjee, (4) Dr. K. C. Mallik and (5) Dr. K. Seal, and the report be submitted to the next general meeting.

4. Dr. S. C. Guha was elected auditor of the Association.

5. Resolved that the Civil Surgeon, Hooghly, be informed that on behalf of this Association (1) Capt. K. N. Chatterji, (2) Dr. D. Ghosh, (3) Dr. K. C. Mallik and (4) Dr. B. Chakravarty are ready to co-operate with him in the works of the St. John Ambulance Association on honourable terms, and also that this Association is of opinion that on the Executive Committee of the local branch of the St. John Ambulance Association, representatives of this Association should be taken and also that examiners should be appointed from amongst its members.

6. Resolved (a) that this Association views with great concern the decision of the General Medical Council of Great Britain in withholding the recognition of the medical graduates of the Calcutta University who had passed out before October, 1936. (b) That this Association strongly protests against the unjust and arbitrary action of the General Medical Council of Great Britain in not giving retrospective effect to the recognition of medical degrees of the Calcutta University from the date of its disaffiliation in 1924 as has been done in case of all other Universities. (c) That this Association urges the Calcutta University and the Indian Medical Council to take proper steps so that the Medical Graduates affected by this decision are properly recognised. (d) That copies of this resolution be sent to the Calcutta University, Indian Medical Council and the press.

7. Resolved that a sub-committee be formed with (1) Capt. J. C. Dey, (2) Capt. K. N. Chatterji, (3) Dr. S. P. Roy, (4) Dr. S. C. Guha, (5) Dr. N. K. De, (6) Dr. Miss L. Roy, (7) Dr. M. M. Chatterji and (8) Dr. K. Seal to consider the proposed schemes of Leprosy and Maternity Clinics by the Hooghly-Chinsura Municipality.

8. Resolved (a) that this Association most emphatically protests against the exclusion of the Licentiates of the State Medical Faculty from the register of the Indian Medical Council (b) that this Association is strongly of opinion that this disqualification imposed on the Licentiates be immediately removed.

With a vote of thanks to the chair, the meeting terminated.

K. SEAL,
Asstt. Secretary.

JESSORE BRANCH

Proceedings of the meeting held on 20th September, 1937, in the hall of the Jessore Medical and Druggists' Association at 7 p.m.

Dr. N. N. Chatterjee, M.B., was voted to the chair. The following resolutions were unanimously adopted in the meeting:

(1) This joint meeting of the Jessore Branches of the All-India Medical Licentiates' Association and the Indian Medical Association places on record their emphatic protest against the Indian Medical Council Act which was passed in the teeth of opposition by the whole medical profession in this country. The Act sponsored by the Government excludes recognition of the Medical Licentiates of India who form the bulk of the profession and whose medical education being entirely in the hands of the Government itself it is thereby doing a great injustice to the most useful section of the profession and thus the Government stands self-condemned.

2. Resolved further that copies of this resolution be sent to the Provincial member of the Assembly at Delhi, to the General Secretary, All-India Medical Licantiates' Association, to the Provincial Secretaries of the Indian Medical Association and All-India Medical Licentiates' Association and to the Press.

3. This joint meeting offer their congratulations to Dr. T. S. Tirumurthi for his bold resignation of his membership from the Indian Medical Council.

With a vote of thanks to the chair the meeting terminated.

N. N. CHATTERJEE,
President.

BOMBAY BRANCH

Extracts from the proceedings of the protest meeting of the Bombay medical profession held under the joint auspices of the Bombay Branch, Indian Medical Association, All-India Medical Licentiates' Association, Bombay Branch, and the Medical Association, Bombay North under the Presidentship of Dr. S. Sanjiva Rao, M.D.B.S. (Madras) at Dr. Sardesai's Eye Hospital, Sandhurst Road, Bombay, on 20th September, 1937.

The President explained to the house the purpose of the meeting and requested Dr. U. B. Narayanrao to speak on the subject, *viz.*, the Indian Medical Council Act, 1933. Dr. Narayanrao in his speech briefly referred to the shortcomings in the Indian Medical Council Act, 1933, which was enacted in spite of countrywide protests. The Indian Medical Council, he said, is official-ridden and a large section of the Indian medical profession, *viz.*, the Medical Licentiates, are totally excluded from the purview of the Act. He further observed, "the medical profession of India has got to agitate and agitate until the Act is radically changed so as to bring it to the lines of the present day requirements."

Dr. M. C. Bilpodiwala then moved the following resolution in a short speech:—

> "Resolved that this meeting condemns the Indian Medical Council Act 1933, and requests the members of the Indian Legislative Assembly to take early steps to provide therein amongst other things a more suitable arrangement for reciprocity and the inclusion of the Licentiates within its purview."

Then Drs. Jivraj N. Mehta, B. Y. Paranjpe, U. Shesha Rao and G. G. Wadhwani spoke supporting the resolution.

The resolution was passed unanimously.

Dr. U. Shesha Rao was authorised to send copies of the Resolution to (i) The Secretary I. M. Council, (ii) The Secretary, The Indian Legislative Assembly, and (iii) to the Medical Press.

U. SHESHA RAO,
Hon. Secretary,
A. I. M. L. Association

U. P. PROVINCIAL BRANCH

ANNUAL REPORT—1936-37

The Headquarters of the U. P. Provincial Branch of the Indian Medical Association continued at Meerut with the following office-bearers who were elected at the annual general meeting held at Allahabad on 30th October, 1937.

President—Capt. S. K. Chowdhury, M.B.E., B.A., M.B.

Vice-Presidents—Capt. A. P. Misir (Benares); Capt. K. P. Bagchi (Agra); Dr. R. C. Mitter (Meerut).

Provincial Secretary—Dr. Bhupal Singh (Meerut).

Provincial Joint Secretaries—Dr. K. N. Tandon (Meerut); Dr. H. N. Shivapuri (Jhansi); Dr. T. C. Basu Choudhury (Agra).

Provincial Treasurer—Dr. S. N. Banerji (Meerut).

BRANCHES & MEMBERSHIP

The year began with 27 Branches with 510 members whose Central Fund contribution for 1935-1936 was received, including 3 Headquarters members.

Only 2 more Branches were added during the year—Banda & Mirzapur—which brings the number to 20. The credit of establishing a Branch at Mirzapur is due to Dr. S. K. Chowdhury, our outgoing President, and Dr. G. S. Choudhury, the Civil Surgeon of Mirzapur and I take this opportunity to convey my thanks to both these gentlemen. Our total membership now is 562. I must admit that we were not able to expand ourselves as we would have wished. This was chiefly due to the apathy of the profession which is extreme. Dr. Bose and myself visited Fatehpur, Farrukhabad, Mainpuri & Etah and we followed our visit up by a series of letters, but we failed to evoke a response. We had also a good deal of correspondence with Fyzabad, Jaunpur, Rai Bareilly, Basti, Hardoi & Hathras, but with little success. Dr. Shivapuri, our Joint Secretary, visited Hamirpur, but found there were very few doctors there. Dr. S. B. Vyas, Joint Secretary, Meerut Branch, visited Hathras and succeeded in preparing the doctors there to join the I. M. A., but no Branch has been established there as yet. Besides the Licentiates' walk-out and the developments afterwards kept us too busy in counteracting the disruptive propaganda carried on by some of these gentlemen.

The Provincial Council

There were two meetings of the Provincial Council during 1936-37:—

(1) At Allahabad on 29-10-36, and

(2) At Agra on 14-4-37.

The attendance at the Agra meeting was poor.

The Working Committee

The following Working Committee was elected at Allahabad on 30-10-36:—

President—Capt. S. K. Chowdhury.

Vice-Presidents—Capt. A. P. Misir; Capt. K. P. Bagchi, and Dr. R. C. Mitter.

Hon. Provincial Secretary—Dr. Bhupal Singh.

Hon. Provincial Joint Secretaries—Dr. K. N. Tandon; Dr. H. N. Shivapuri; and Dr. T. C. Basu Choudhury.

Hon. Treasurer—Dr. S. N. Banerji; Dr. S. Halder (Muzaffarnagar); Dr. Hira Lal (Meerut); Dr. (Mrs.) M. Tandon (Meerut) and Dr. R. C. Chaurasia (Meerut).

As Dr. Halder left for England, Dr. R. N. Bose was elected in his place at the Provincial Council meeting held at Agra.

There were 5 meetings of the Working Committee during the year with fair attendance:—

(1) On 12-12-36; (2) on 24-1-37; (3) on 9-7-37, (4) on 19-9-37; and (5) on 8-10-37.

Financial Condition

	Rs.	A.	P.
Income:			
Balance (with Re. 1/- excess paid to H. Q. Last year)	321	8	10
Subscription from Branches ...	625	12	0
Special Fund	37	0	0
Bank Charges	4	0	0
Contribution for printing the Report of Conference from Allahabad ...	50	0	0
Donation for Emergent Medical Relief Unit Fund	70	0	0
U. P. Organising Propaganda Fund	250	0	0
Total Rs.	1354	8	10
Expenditure:			
Establishment	270	0	0
Postage	96	15	9
Printing & Stationery	44	0	6
Bank Charges	6	4	0
Miscellaneous	47	13	6
Gestetner Duplicator	275	0	0
Printing of Conference Report ...	56	0	0
Balance in hand	796	1	9
Balance in Bank	558	7	1
Total Rs.	1354	8	10

The Balance of Rs. 558-7-1 consists of:—

1.	General Cash	167	11	1
2.	Organising Propaganda Fund ...	250	0	0
3.	Emergent Medical Relief Unit Fund	70	0	0
4.	Special Fund	70	12	0
	Total Rs.	558	7	1

I am glad to tell you that all the dues of the Association from the Branches have been realised except Rs. 4/8/- from Mussoorie Branch. I take this opportunity of conveying my thanks to the Branches for clearing up their dues. I may be allowed to say again that the contribution to Central Funds is payable in advance on the 1st of October each year because upon it depends the issue of the Journal to the members.

The Special Fund

The total realisation under this head comes to:—

	Rs.	As.	P.
In 1935-36	701	0	0
In 1936-37	37	0	0
Total ...	738	0	0

Out of this we bought:—

Remington Typewriter	392	4	0
Gestetner Duplicator	275	0	0
Total ...	667	4	0

The balance with us is Rs. 70/12/-. I would recommend that this amount may now be transferred to General Cash and the Special Fund closed.

The Organisation Fund

The Central Council was pleased to give a grant of Rs. 250/- to the U. P. Provincial Branch for the purpose of organisation. The sum could not be utilised in the year under report as suitable persons could not be found to undertake a tour for the establishment of Branches in Eastern districts many of which are still holding themselves out of the I. M. A. We hope to utilise this amount in the current year and the Jt. Hony. Secretary, I. M. A., writes to me that it will be quite in order for us to retain it and make use of it in the current year.

The U. P. Emergent Medical Relief Unit Fund

We had appealed to the Central Council to give us a grant towards this Fund, but due to some technical difficulties the Central Council could not come to our aid. But Dr. K. S. Ray, Jt. Hony. Secretary, I. M. A., kindly gave a personal donation of Rs. 50/- to serve as the nucleus of this Fund which was thankfully received by the U. P. Provincial Branch. An appeal for funds was addressed to the various branches by the Secretary, but so far there has not been much response. The following subscriptions have been received already:—

1.	Dr. K. S. Ray, Calcutta ...	Rs.	50/-
2.	Dr. T. B. Butcher, Mussoorie ...	Rs.	10/-
3.	Dr. R. Prakash, Mussoorie ...	Rs	5/-.
4.	Dr. B. S. Rathke, Mussoorie ...	Rs.	5/-.
	Total ...	Rs.	70/-.

The following amounts have been promised:—

1.	Dr. Bhupal Singh, Meerut ...	Rs.	50/-.
2.	Dr. L. K. Ray, Meerut ...	Rs.	50/-.
3.	Dr. S. N. Banerji, Meerut ...	Rs.	50/-.
4.	Dr. J. L. Caroli, Meerut ...	Rs.	25/-.
5.	Dr. Babu Lal, Meerut ...	Rs.	5/-.
6.	Bulandshahr Branch ...	Rs.	5/-.
	Total ...	Rs.	185/-.

I shall be putting up an appeal before you on behalf of the Fund and I do hope you will be pleased to subscribe to it liberally as the object is really deserving of your charity.

Action taken on Resolutions of the III U. P. Medical Conference

1. The first resolution was of condolence and was duly communicated to the families of the deceased.

2. The second resolution was about Amended Poisons' Rules and was of thanksgiving which was duly communicated to the persons concerned.

3. Resolution No. 3 about Hon. Physicians and Surgeons; Resolution No. 4 about amendment of Medical Council Act; Resolution No. 5 about representation of medical men on the Municipal and District Boards; Resolution No. 6 about representation of independent practitioners on the Governing Body of the State Medical Faculty; Resolution No. 8

about Medical Certificates; and Resolution No. 13 about Medical Aid in rural areas were duly communicated to the Hon'ble Minister in charge, Medical Department and the Secretary to Government, but with no acknowledgment, no actions seem to have been taken; and it is not surprising as there have been so many changes in the Government recently.

4. Resolution No. 7 about amendments to the Lunacy Act; Resolution No. 10 about minimum standard of medical education; and

Resolution No. 15 about the Indian Medical Council Act were forwarded to the Jt. Hony. Secretary, I. M. A., to be put before the All-India Medical Conference as they related to All-India subjects and they were adopted by the All-India Medical Conference.

5. Resolution No. 3 about Hony. Physicians and Surgeons; Resolution No. 9 about Medical Ethics; Resolution No. 12 about Family Pension and Disability Funds; Resolution No. 13 about Medical Aid in rural areas; Resolution No. 14 about Unemployment among medical men; and Resolution No. 16 about Emergent Medical Relief Unit were considered by a Special Committee which has submitted its Report giving a detailed scheme of reorganising the system of medical relief in U. P. It has also given a scheme about Family Pension and Disability Funds. The U. P. Emergent Medical Relief Unit scheme was also considered and an appeal for funds has been made.

6. Resolution No. 11 about Association of Branches of I. M. A., and Red Cross Organisation; and Resolution No. 12 about Family Pension and Disability Pension Funds Scheme were also forwarded to the Jt. Hony. Secretary, I. M. A., for being put before the All-India Medical Conference. The Central Council referred them to us to formulate a scheme and give them a trial in U. P. As regards Association of Branches of the I. M. A., and the Red Cross Organisation, efforts were made to discuss the matter with the local Secretary of the Red Cross Organisation, but nothing definite has yet been arrived at.

My report will not be complete without referring to the unfortunate walk-out of some of the Licentiates from the Annual General Meeting of the I. M. A. held at Allahabad in October last and the development afterwards which kept us too busy to be able to devote sufficient time to propaganda and the work of organisation of Branches. The mischief started with the threatening circular letter of Dr. Ram Narain Lal, the late President of the Licentiate Association, in which he blamed the I. M. A. for certain supposed actions of the P. M. S. Association and demanded the I M. A. to do his bidding at the point of the pistol in the shape of a threat of wholesale withdrawal of the Licentiates from the I. M. A. What was the object in adopting this course is best known to the author of the circular letter, but one thing is quite plain that his action has done the greatest amount of harm to the profession by emphasising class feeling where none existed, embittering the happy relations between the two classes of medical men. The walk-out staged at the Annual Conference because some of the Licentiates could not secure certain offices they wanted in the open election was in pursuance of the same policy and the U. P. Standing Committee's decision advising the Licentiates to withdraw from the I. M. A. and the misrepresentation in the Press and propaganda in some places in U. P. to implement the decision of the U. P. Standing Committee were the natural sequence of the same policy. I am pleased to say that so far the propaganda carried on by some of these gentlemen, who are determined to ruin the I. M. A. forgetting that they are harming the cause of the Licentiates themselves by doing so, has not been successful and the Licentiates have remained firm. But I have come to know of fresh efforts at intensive propaganda against the I. M. A. in the form of a circular letter which is full of misstatements and is designed to raise the cry of "Licentiate interests in danger" and thus catch the imagination of the Licentiates and precipitate them into taking a wrong action.

Brothers and sisters! the destiny of the Licentiates and Graduates is bound up intimately together and the medical profession in India stands to lose if the two pull asunder. I would appeal to you in the name of the profession as a whole not to be led away by the misrepresentations indulged in by interested people, but to stand together for the good of the whole.

BHUPAL SINGH,
Hony. Provincial Secretary,
I. M. A., U. P. Provincial Branch.

* * *

After the report of the Hony. Provincial Secretary for the year 1936-37, the audited accounts of the Association for the year 1936-37 were passed.

The following office-bearers were unanimously elected for the year 1937-38:—

President—Dr. Abdus Samad, B.A., M.B., M.L.A., Cawnpore.

Vice-Presidents—Dr. S. Halder, L.M.S., Muzaffarnagar; Dr. S. C. Acharya, L.M.F., Deoria; and Dr. Sarju Prasad Dube, L.M.P., Jhansi.

Hony. Provincial Secretary—Dr. Bhupal Singh, B.A., M.B., Meerut.

Hony. Provincial Jt. Secretaries—Dr. R. N. Bose, M.B., Meerut; Dr. H. N. Shivapuri, M.B., B.S., Jhansi; and Dr. Bhola Nauth, M.B., B.S., Benares.

Hony. Provincial Treasurer—Dr. S. N. Banerji, L.M.F., Meerut.

Members of the Working Committee—Dr. S. B. Vyas, L.M.P., D.T.M., I.M.D. (Retd.), Meerut; Dr. R. C. Chaurasia, L.M.F., Meerut; Dr. R. C. Mitter, L.R.C.P. & S., Meerut; and Dr. K. P. Bagchi, M.B., B.S., Agra.

R. N. Bose,
Hony. Provincial Jt. Secretary.

CALCUTTA BRANCH

A Special General Meeting of the Branch was held on the 13th August, 1937, to protest against the appointment of a non-medical Demonstrator in the Physiology Department of the Carmichael Medical College, Calcutta.

The following among other resolutions was passed:—

"Unanimously resolved that the members of the Calcutta Branch of the Indian Medical Association assembled in a special general meeting on 13th August, 1937, strongly condemn the action of the authorities of the Carmichael Medical College in appointing a non-medical candidate in the teaching staff of the Physiology Department when medical graduates with requisite qualifications were available. The meeting is decidedly of opinion that the claims of medical men with necessary qualifications should always have preference over those of non-medical men in the matter of the selection of the teaching staff of medical institutions."

T. N. Ghosh,
Secretary.

D. P. Ghosh,
Chairman.

REPORT TO THE COUNCIL OF THE BRITISH MEDICAL ASSOCIATION BY THE SECRETARY ON HIS VISIT TO INDIA, 1936-37

When a number of members of the British Medical Association made a Round-the-World tour in connexion with the Annual Meeting in Melbourne in 1935 they included in their itinerary a visit to Bombay. The meetings which took place there between members from Great Britain and members of the medical profession in India impressed upon the former the necessity for some immediate action on the part of the British Medical Association to promote the organization of the profession in India. The Council therefore appointed a special committee to consider the subject, and decided to send the Secretary of the Association to India to investigate the conditions of medical practice and organization in that country.

The Secretary duly made the visit during the winter of 1936-37. On his return he submitted to the Council a report on the information he had collected and on the representations concerning medical conditions made to him during his tour. The Council received the report, but decided, before expressing either approval or disapproval of the contents, to publish it and to collect observations on it from the professional organizations in India, including the Indian Branches of the British Medical Association, and from other bodies and persons interested in the subject. The report must not be regarded therefore either as a report of the Council or as an expression of its opinions.

The report is printed below, and the Council invites the Indian Branches of the Association and any organizations and individuals interested in the welfare of the profession in India to send it observations upon the report of the Secretary and to make proposals likely to improve the organization of the British Medical Association and contribute to the welfare of the medical profession in India. When these views are received the Council will consider them and will decide what further steps are desirable in order to promote the efficient organization of the Association in India.

* * *

1. In accordance with the decision of the Council contained in Minute 112 of the meeting of November 11, 1936, I visited India " to investigate the conditions of medical practice and organization " in that country.

2. I landed in Bombay on December 11, and between that date and March 6, 1937, when I sailed for home, I made an extensive tour of the country, visiting the following centres: Bombay and Poona (Bombay Presidency), Delhi (Delhi Province), Peshawar (North-West Frontier Province), Rawalpindi, Lahore, Amritsar, and Ludhiana (Punjab), Agra, Benares, and Lucknow (United Provinces), Nagpur (Central Provinces), Hyderabad (Hyderabad State, Deccan), Madras (Madras Presidency), Calcutta (Bengal Presidency), Shillong, Mariani, Labac (Assam), Patna (Bihar Province). A detailed description of the tour appeared in the *Supplements* of the *British Medical Journal* of February 6 and 27 and March 13.

3. I visited the principal medical colleges and a number of the medical schools; hospitals both large and small, civil and military; dispensaries (urban and rural); sanatoria; maternity and child welfare centres; maternity homes; research institutions, etc., etc. I discussed the problem of medical care with representatives of all branches of medical practice in India, interviewing officers of the Indian Medical Service, both European and Indian, officers of the R. A. M. C., members of the Indian Medical Department, members of the Provincial Medical Services and of the subordinate medical services, as well as independent medical practitioners. I also had conversations with Governors, Commissioners, and Administrators in a number of the Provinces I visited. I took advantage of every opportunity that presented itself to gain an insight into the conditions under which medical work is being carried on in India.

4. It should be understood that the opinions set out in this report are those represented to me by members of the profession in India and by other persons with whom I had the pleasure of talking. I was, of course, in India for only three months, and there may be, and probably are, other views which were not expressed to me, for a much longer and wider inquiry than I was able to make would be necessary for the presentation of an exhaustive review of the opinions of all sections of the profession in all parts of the country.

5. In order that the situation in India may be appreciated it will be necessary first to describe very briefly the agencies through which medical care is administered.

I. A SURVEY OF EXISTING MEDICAL AND PUBLIC HEALTH SERVICES

(1) The Indian Medical Service

6. The Indian Medical Service is primarily a military Service, but a number of appointments under the civil administration are specifically reserved for officers of that Service. All officers in civil employ are subject to recall for military duty as they are the War Reserve on mobilization or in emergency.

7. The Civil Branch of the Indian Medical Service consists, under the new cadre, of no fewer than 220 officers,

of whom 166 are to be British. A special list of posts reserved for the I. M. S. officers under civil employ has been adopted.

8. The medical officer on recruitment normally spends the first two or five years of his service in India on the military side, which has charge of the Indian Army, after which he is eligible for transfer to the civil side. An officer transferred to civil employment is on probation for two years. It continued in civil employment thereafter he retains the right to revert to military employment, under certain conditions, until he has spent seven years in civil employment or has had seventeen years' total service.

9. The reserved civil medical posts in the Provinces and Department of External Affairs include sixty-two civil surgeoncies, which are established at the principal centres and provide for the medical needs of civil officers and for general medical administration; specialist appointments at Government teaching hospitals and research posts. There are higher administrative appointments not reserved for I. M. S. officers (except for the North-West Frontier Province) to which the officer may aspire—for example, Inspectors-General of Civil Hospitals, of whom there is one in each Province, those in the Presidencies of Bombay, Madras, and Bengal being designated Surgeon-General. The head of the civil side of the Indian Medical Service is the Director-General, whose headquarters are at Delhi and Simla.

10. Under the new cadre as from April 1, 1937, a limited number of specialist posts at the Medical College Hospitals are reserved for European Indian Medical Service officers. The total number is thirty-one, of which ten are junior posts. For example, in Madras Presidency, the reserved posts consist of one specialist appointment at Madras in each of the three subjects, medicine, surgery, and obstetrics with gynæcology, and three junior specialists in the subjects of medicine, surgery, and obstetrics with gynæcology, are to be posted at Madras or at Vizagapatam. All these appointments carry with them extra pay and the right to private practice. The professorships, formerly reserved for the I. M. S., are no longer restricted in this way.

11. The employment of I. M. S. officers in the civil side provides part of the medical reserve for the Indian Army in time of war, whilst the earmarking of certain civil posts for European I. M. S. officers ensures treatment by Europeans for the Europeans in the Civil Services and their families.

(2) The R. A. M. C. in India

12. Medical officers attached to the R. A. M. C. in India look after British troops and their families. Comparatively speaking they have little concern with the civil population in India, and therefore I do not propose to deal with the Service here.

(3) The Indian Medical Department

13. The Indian Medical Department supplies the subordinate military medical personnel for the armies in India.

(*a*) Those who are recruited for service with the British troops in India are called military assistant surgeons and are mostly Anglo-Indians who undergo their course of training in medical colleges at the expense of the Government of India. They are appointed with the rank of warrant officer and their duties are those of house-surgeon, clerk, compounder, ward master, steward, and storekeeper. They maintain discipline in the hospital and see that orders which are given by the R. A. M. C. officers are duly carried out. To a great extent they discharge the function of resident medical officers. They may rise to commissioned rank. Military assistant surgeons may be selected for civil employment. In recent years appointments to ordinary civil employ have been made only if the assistant surgeon has a qualification registrable in Great Britain.

(*b*) Those recruited for service with the Indian Troops are trained in medical schools and are called sub-assistant surgeons. They are attached to the Indian Station Hospitals and serve under I. M. S. officers. Recruitment is by selection from amongst Indian candidates who hold the licentiate qualification. On admission to the Indian Medical Department they are given warrant officer rank, and their duties correspond largely to those of a military assistant surgeon attached to a British Station Hospital. Military sub-assistant surgeons may also be selected for civil employment.

(4) The Provincial Medical Service

14. Medical administration, including hospitals, dispensaries, and asylums, and the provision for medical education, public health, sanitation and vital statistics (subject to legislation by the Central Indian Legislature in respect of infectious and contagious disease), regulation of medical qualifications and standards (subject to legislation by the Indian legislature), are all matters which come under the control of the Provincial Governments. The chief Administrative Officer—the Surgeon-General or Inspector-General, is the head of the Civil Medical Department of the Province, and is responsible for the superintendence of all hospitals, dispensaries, lunatic asylums, and similar institutions. He has control of the medical staff and arranges for the recruitment, transfer, and promotion of the purely medical (provincial) personnel. He is the adviser of his Government upon all matters connected with the medical administration of the Province. He has under him certain I. M. S. officers, civil assistant surgeons, some of whom may be military assistant surgeons seconded for civil work, and civil sub-assistant surgeons, some of whom also may be military sub-assistant surgeons seconded for civil work.

15. Each Province recruits its own medical personnel of Indian Medical Service officers, who are selected by the

Government of India, with the exception of I. M. S. officers who are earmarked to specially reserved posts by the Government of India. Medical graduates possessing degrees of recognized Indian universities, after competitive examination or selection, are appointed as civil assistant surgeons, while the licentiate class are recruited as civil sub-assistant surgeons. The assistant surgeon may rise to be a civil surgeon, as the majority of these posts are reserved for them. After long service the sub-assistant surgeon may rise to the status of assistant surgeon. Civil assistant surgeons are employed as lecturers in medical schools, as professors, assistant professors, and demonstrators in medical colleges, and as house-surgeons and physicians in the large hospitals. They may be allotted to the staff of the civil surgeon in the headquarters District Hospital or be placed in charge of a smaller hospital or a larger rural dispensary. The civil sub-assistant surgeons' duties are many and varied—for example, they may be placed in charge of police, jails, lunatic asylums (under the civil surgeon), or smaller rural dispensaries; they are employed on all kinds of duties connected with the outbreak of epidemics, and they have to act generally as subordinates in the Provincial Medical Service. Members of the Provincial Medical Services are allowed private practice.

16. Great difficulty is experienced in retaining the services of assistant surgeons and sub-assistant surgeons in the rural areas because of the difficulty of adding to Government pay (which may be as low as Rs. 50 a month). Private practice in villages is practically unobtainable, social amenities do not exist, and hygienic and sanitary conditions are deplorable.

Municipal and District Board Medical Provision

17. In addition to the hospitals and dispensaries provided by the Provincial Governments there are the dispensaries provided by the Municipalities and District Boards, which are usually under the charge of practitioners of the sub-assistant surgeon class.

(5) Civil Surgeons

18. The majority of civil surgeons are appointed from the Provincial Medical Services; the remainder are I. M. S. officers in civil employ, and are approximately in the proportion of one I. M. S. officer to four P. M. S. officers. For example, in the United Provinces there are forty-eight civil surgeoncies; under the new rules eleven are reserved for European I. M. S. officers.

19. The duties attached to the post of civil surgeon to a district vary with the locality, but, generally speaking, the civil surgeon of a district is responsible for the medical administration of the district and of all hospitals supported by the Government in that district. He also acts as the medico-legal adviser to the Government. Except in Presidency towns his duties in this capacity include those performed by police surgeons in this country—that is, he conducts all medico-legal post-mortems, gives evidence in all courts, and has charge of the police hospital. The magistrate, who is the administrative officer at the head of the district, relies upon the civil surgeon for advice upon all medical matters. The civil surgeon is also usually superintendent of the district jail, and in addition supervises the medical officer of the jail. He has to undertake medical attendance upon those Government servants resident in his locality who are entitled to free attendance, and he is also expected to attend the dependants of these, but for this he is entitled to charge private fees. He has to examine recruits for the Army, Police, and State employment generally. He has to issue health certificates to Government servants of all classes. He is also permitted private practice amongst other sections of the community provided that this does not interfere with the proper discharge of his official duties. He is assisted in his medical work by assistant surgeons, the number varying according to the size of his district and the needs of the locality, and by sub-assistant surgeons, who are recruited provincially from the licentiate class.

20. In Delhi, one of the most important centres in India, the civil surgeon has charge of the Irwin Hospital of 320 beds, 200 of which are available for use. The staff consists of himself and 4 assistant surgeons, 5 sub-assistant surgeons, 10 house-surgeons, 5 of whom live in. In addition there are two or three honoraries working in some of the special departments, but they have very few beds allotted to them. A typical district hospital in charge of a civil surgeon has, however, approximately 100 beds, and the staff of such an institution, apart from the civil surgeon himself, usually consists of 1 assistant surgeon, 1 male sub-assistant surgeon, and 1 female sub-assistant surgeon. These three usually live on the premises.

21. Hospitals, other than the large District Hospitals, are under the charge of an assistant surgeon, whilst in the rural and smaller urban areas a sub-assistant surgeon is in charge. Both, however, are under the supervision of the civil surgeon for the district.

22. To enable the Council to appreciate the manifold duties which a civil surgeon may be called upon to undertake I cannot do better than cite the case of the civil surgeon of Nagpur, in the Central Provinces, admittedly one of the poorest Provinces in India. He is stationed at Nagpur, has administrative charge of a hospital of 230 beds, is one of the surgeons attached to the hospital, and in addition is superintendent of the Medical School, which is a training centre for licentiates, nurses, and compounders. He is also in administrative charge of all Branch Dispensaries (of which there are six) serving a population of 800,000; he acts as medical adviser to higher Government officials and their families, and as the medico-legal adviser to the Government for the district. He has also certain medico-legal duties to perform—for example, post-mortems and examinations in assault cases and giving evidence in courts—and he is also allowed private practice.

(6) The Independent Medical Profession

23. Of late years there has been a great increase in the number of independent medical practitioners in India. Proportionately the greater increase has been in the graduate class a number of whom have come over to this country for post-graduate instruction and have obtained higher degrees the Fellowship, Membership, or special Diplomas such as the D.O.M.S., D.M.R.E., D.P.H., and D.T.M. In some of the teaching centres there are opportunities for the independent medical profession to act as honorary officers in the Government medical schools and colleges, and in private hospitals. The increase in the profession has been mainly confined to the towns, and very few of the independent medical profession are to be found in the country districts. Licentiates, who formerly took posts as sub-assistant surgeons, now practise in increasing numbers in the larger towns, and, notwithstanding their inferior training, compete freely with the graduates. Thus the licentiate who was originally trained to act under the authority of a medical officer in one of the superior Medical Services is now practising medicine on his own, flooding the market to such an extent that in the larger, and, indeed, in some of the smaller, towns there is decided overcrowding of the medical profession. This congestion becomes most acute in large cities, in the majority of which a considerable number of medical men are finding it almost impossible to make a living; indeed many are on the verge of starvation.

24. The vast bulk of the population in towns is poor and medical fees are very low. Indeed in many parts of the towns free medical advice is given at the consulting rooms of the private practitioners, fees being charged only for the supply of medicine, for injections, and for the performance of minor surgical operations. Many practitioners carry on their work in the busy thoroughfares in some of the crowded parts of the town, and the standard of medical ethics is very low indeed.

25. In addition to the private practitioner there are the Hakims and the Vaids (the practitioners of the indigenous systems of medicine, Unani and Ayurvedic), whilst there are also the so-called homœopaths, who buy their degrees for a few rupees, and quacks of all kinds. The compounder (dispenser), who has been trained at one of the Government hospitals, attempts to practise medicine side by side with the qualified graduate or licentiate. It must not be forgotten that many of those who qualify in scientific medicine practise Ayurvedic medicine as well, the deciding factor as to the choice in some instances being the wish of the patients. There is of course no legal restriction which prevents the unqualified from carrying on some form of so-called medical practice. The population generally is illiterate, superstitious, ignorant, and prejudiced, and consequently unable to appreciate the differences between the qualified and unqualified. The natural tendency of the people is to seek advice from those who practise an indigenous system which is bound up with their religious faith. Coupled with this there is the inherent antagonism to scientific medicine because of its Western origin, so that the lot of some of the graduates in the larger cities is not to be envied.

(7) The Railway Medical Service in India

26. Each State Railway in India has its own medical service administered by the railway concerned, under the control of the Railway Board, a Government Department. Other railways not owned by the State make their own independent arrangements.

(8) Other Medical Agencies

27. A description of the medical service in India would not be complete without reference to the Women's Medical Service and the Medical Missionary Service.

Women's Medical Service

28. The Women's Medical Service in India, which was reorganized in 1914 and is a voluntary organization under the administration of the Countess of Dufferin's Fund, consists at present of forty-four medical women. Whilst it is not a Government service it is to a certain extent under Government control, as it receives a Government subsidy. The Service is open to qualified medical women of British or Indian nationality, and appointments are made by selection in England and India, preference being given to applicants with Indian experience. Most of the work of the medical women is connected with hospitals and institutions, and there are also openings for maternity and child-welfare work. Private practice is allowed provided this does not interfere with the efficient discharge of official duties. I heard nothing but praise of their work.

29. This service partly staffs a Women's Medical College officered by women, thus enabling Indian women even of the more sheltered class to study for the higher degrees. The number of qualified medical women available in India is extremely small considering the population, the size of the country, its urgent medical needs, and the prejudice which prevents many Indian women from attending general hospitals or accepting aid from medical men.

Medical Missionary Service

30. There are in addition a goodly number of medical missionaries, both male and female, and a certain number of assistant and sub-assistant surgeons working in hospitals and dispensaries throughout the country. The work which is being done by the Medical Missionary Service cannot be too highly praised, and this applies more particularly perhaps to the women medical practitioners who have done so much to relieve suffering amongst the women in India.

(9) Public Health Services

31. Both the Federal and the Provincial Governments take part in public health administration. The public health functions of the Federal Government are those

which affect India as a whole, and its duties are therefore concerned with such questions as port quarantine emigration and immigration, central institutes for medical and public health research, and the census. The Provincial Governments deal with local health administration, hospitals, registration of births and deaths, water supplies, health conditions in prisons and other institutions, and, to a certain extent, the control of food and drugs. In addition there are certain subjects concerning which both the Federal and Provincial Legislatures have power to make laws. These subjects include poisons and dangerous drugs, the care of infants, minors and the mentally deficient, public health in factories, the prevention of epidemics, and the compilation of statistics.

32. The administration of public health is entrusted to various types of authorities and medical officers. The activities of the Central Government are controlled by the Public Health Commissioner with the Government of India, who is a member of the I. M. S. In each Province there is a Director of Public Health with from two to four Assistant Directors. Before April 1, 1937, one of these assistant appointments in each Province was reserved for I. M. S. officers, whether British or Indian, but under the new regulations there is no such reservation. Within each Province there are a number of municipal authorities, which provide the public health administration for the towns, and district boards, which perform the same functions for the rural districts. The medical staffs of the municipal and district boards are similar, and usually consist of whole-time or part-time medical officers of health (some of whom are qualified medical practitioners in possession of the Diploma in Public Health and some are licentiates), vaccination officers, school medical officers, and sanitary officers, and, in the rural areas, epidemic staffs. Their duties concern vaccination, dispensaries, epidemic diseases, and sanitation. The work of the municipalities and the district boards are subject to the general supervision of the public health department of the Province.

33. A study of the above may give an erroneous impression of the work which is actually being undertaken to-day in India on the public health side. Whilst I did not make an intensive survey of this aspect of medical work, it is apparent to the most superficial observer that elementary sanitation is lacking, and that there is urgent need for the development of communal health services. Perhaps the most essential factor is, however, the establishment of a central public health council which would co-ordinate the work in the various Provinces. Without a central public health administration in this country the present standard of public health work here could not have been reached, and I fail to see any prospect of the desired improvement in India unless there is some controlling hand to take the initiative in problems which are common to all areas, whether States, Provinces, or Presidencies.*

* Since this report was written the Government of India has established a Central Advisory Board of Health.

II. AN EXAMINATION OF EXISTING MEDICAL CONDITIONS

34. The next section of this report deals with the chief matters upon which strong representations were made to me by members of the Indian medical profession. This survey will not exhaust the subjects of grievance, but I have concentrated upon those that are common to most of the Provinces and have a distinct bearing upon the prospects of the furtherance of the Association in India.

(1) The Indian Medical Service

(*a*) A Comparison of the Conditions of Service of Indian and European Members of the I.M.S.

Recruitment

35. Recruitment for the I. M. S. is conducted on the nomination and recommendation of a Selection Board, British doctors being recruited in London, and Indian doctors in India. Indians are recruited for the I. M. S. on different terms from Europeans. Prior to April 1 of this year Indians entered the Service on a temporary basis. Their commissions were renewable from year to year up to five years, when they became eligible for permanent appointment. The right to retire with a gratuity was limited to officers who had completed six years' service from the date of permanent appointment. Since April 1 short-service commissions for five years similar to those of the R.A.M.C. have been introduced. Short-service officers are asked to indicate whether on the conclusion of five years' service they desire to be appointed to permanent commissions. Appointments to permanent commissions will be made by selection from among those short-service officers who wish to be considered. It is intended that about 70 per cent. of those appointed to short-service commissions shall receive permanent commissions, but this percentage may vary from time to time. The remainder will be retired with a gratuity of Rs. 4,500, and will be required, if considered suitable, to join the Army in India Reserve of Officers for a period of fifteen years. Those selected for permanent commissions lose the right to retire on a gratuity after six years' service—that is, after one year's service with a permanent commission.

36. As far as the Europeans are concerned there has been little change in the regulations in force prior to April 1. Recruitment to the I.M.S. is on a permanent basis. Appointments are made by a Selection Committee to permanent commissions; antedates are awarded for hospital experience and higher qualifications. For the first three years the officer is on probation. Voluntary retirement with a gratuity of £1,000 is permitted after six years' service, whilst after twelve years' service the gratuity is £2,500. Strong representations were made to me by the Indian members of the I.M.S. upon the differentiation between the gratuity allowed to the Indian as compared with that allowed to the European.

Rates of Pay

37. The basic pay is the same for Indians as for Europeans but oversea pay is admissible in the case of

officers who at the date of their appointment to the I.M.S., had their domicile elsewhere than in Asia. The basic rates of pay have been reduced as from April 1, 1937, while the oversea pay has been increased, thus making a further differentiation between the pay of the Indian and of the European officer in the I.M.S. In addition to basic pay and oversea pay, various allowances are admissible for a large number of special appointments, both military and civil. Special rates are also attached to numerous administrative appointments.

38. A limited number of public appointments such as civil surgeoncies, teaching and research appointments, and public health appointments are reserved for officers of the civil side of the I.M.S. The schedule of reserved posts shows that the number of civil posts reserved for Indian I.M.S. officers in the Provinces is markedly less than that reserved for European I.M.S. officers, and that no specialist posts in the principal teaching centres are reserved for them. The relative proportion of posts reserved in favour of the European as against the Indian officers was strongly represented to me as a grievance amongst the Indian officers. Local Governments may employ additional Indian I.M.S. officers in civil appointments, but it was pointed out that they were not likely to exercise their prerogative in this respect since the pay of the Indian Medical Service officer was on a higher scale than that which need be offered to those unconnected with the I.M.S.

(*b*) The Need for a Civil Branch of the I.M.S.

39. Two main reasons are advanced in support of the employment of I.M.S. officers in civil appointments:

(*i*) To provide a reserve of European medical officers and a smaller number of trained senior Indian medical officers available in time of war or emergency;

(*ii*) To ensure for European officers of the superior Civil Service and their families medical attendance by European medical officers.

(i) *The War Reserve*

40. The existence of the civil side of the I.M.S. was represented to me as the cause of much dissatisfaction in India. As regards the provision of a war reserve, the Government of India and the military authorities consider that it is essential that such a reserve should be maintained by means of a civil branch of the I.M.S., and the same conclusion has been reached by a number of Commissions. On the other hand, representations were made to me by members of the independent medical profession in India, and of the Provincial Medical Services also, to the effect that an adequate reserve could be built up in India. Consequently they regard the contention of the military authorities as an excuse to preserve the civil side of the I.M.S.

(ii) *European Medical Attendance upon Europeans*

41. The second reason given for the continuance of the civil side of the I.M.S. is to ensure European medical attendance upon European civil servants and their families. This provision forms part of the contract between the Government and civil European Government officers, and the Government authorities consider it essential to the contentment of the Civil Service. Many Indians with whom I discussed the subject, however, believe that the need for such provision has been exaggerated, for they say that there are places in India where the European members of the superior Civil Services and their families, and indeed non-Service Europeans, readily avail themselves of the services of Indian medical practitioners. It was suggested to me that by assuring to the Indian—whether he was an officer in the I.M.S., a member of a Provincial Medical Service, or an independent medical practitioner—greater opportunities for advancement in knowledge and experience through the development of the system of open competition for those posts which were not at present available to him, men of sufficient standing, capability, and education to satisfy the needs of the community, irrespective of nationality, would be forthcoming.

(*c*) Reduction in Strength of Civil Branch of I.M.S.

42. To the argument that lessened opportunity in the Civil Branch of the I.M.S. will lead to deterioration in the type of medical man entering the I.M.S., and consequently in the Service itself, the reply was made that, while this may be true to a certain extent, since the rewards which formerly attracted prospective entrants will no longer be available, the gain to the community and to the profession in India may prove to be greater than the loss. The strength of the Civil Branch of the I.M.S. in 1913 was 506, while from April 1, 1937, it is to be 220. Thus the reduction of the civil side of the I.M.S. has been in progress for a number of years, and the present proposals have doubtless been made in the light of experience gained or as the result of political pressure.

(*d*) Reservation of Teaching Posts and Specialist Posts in Teaching Centres

43. Prior to April of this year certain professorships in the teaching colleges were reserved for European I.M.S. officers. It has now been decided to reserve instead a number of senior specialist posts. In addition, a number of junior specialist posts are to be similarly reserved. For example, in Calcutta, four senior specialist posts in the Medical College, in medicine, surgery, obstetrics and gynæcology, and ophthalmology are to be reserved for European I.M.S. officers, as well as three junior specialist posts in medicine, surgery, and obstetrics and gynæcology.

44. These specialist posts are reserved by the authorities for Europeans in order that European specialist medical attendance shall be available for European Government servants and families, and they afford European I.M.S. officers opportunities for clinical hospital work in their own special subjects. Indian I.M.S. officers complain that the reservation perpetuates a system to which they have always taken serious exception, and they claim the

same right to clinical opportunities as that accorded to their European colleagues. They consider that, even if European specialist medical attendance is necessary, it should not be provided in such a way as to deprive Indian I.M.S. officers of the opportunities for specialist works which are enjoyed by their European colleagues in the same Service. Practitioners outside the Service are opposed to the reservation on the ground that, since specialist posts in teaching hospitals possess a special importance and value, they should be held by the most competent and experienced persons available, and it is therefore undesirable to lay down specifically that any specialist post or professorship in a teaching college hospital should be reserved either for a European or for an Indian.

45. It would appear that all the professorships at the Medical College, Calcutta, as they become vacant, will now be open to competition. This is welcomed as a step in the right direction by the independent medical profession in India, who feel that the time has come when the requirements of medical education should take precedence over all other considerations, and when no teaching post should be earmarked for members of particular Services or particular Provinces. Their view is that such appointments should be open to members of the medical profession as a whole, and that an equal opportunity should be given to all practitioners with the necessary qualifications, training and experience.

46. Attention must also be drawn to the view expressed by another group of persons who believe that the presence of at least a few European officers on the staffs of medical colleges in India is essential to the progress of scientific medicine. They point out the tendency of the Indian practitioner to blend the practice of indigenous medicine with that of scientific medicine and the influence of caste and religious questions in the appointment of Indians. They therefore emphasize the need of a constant reinforcement of European practitioners if Western medicine is not to deteriorate and if the latest teaching in the English schools is to reach the Indian colleges.

(2) The Right to Private Practice in the I.M.S. and in the Provincial Medical Services

47. Government medical officers, whether European or Indian, in such posts as civil surgeoncies and clinical specialists attached to hospitals, are allowed to engage in private practice provided that this does not interfere with the official duties assigned to them. The independent medical practitioners object to this on the ground that they are in unfair competition with subsidized Government medical officers. They believe that it would go far to remove this grievance if private practice were forbidden to officers holding these posts and nothing but consulting practice in its purest sense permitted. Permission to engage in consulting practice, they say, would ensure that the services of these officers would not be entirely lost to the community, but would be available when requisitioned by the attending medical practitioner.

48. These practitioners also expressed the opinion that all civil surgeons should have their practice restricted to Government servants and their dependants, and, so far as the rest of the community is concerned, they should be restricted to consulting practice. They believe that the services of civil surgeons would be utilized without hesitation if the independent medical profession were aware that these officers were not competing with them in the field of private practice. They agree, however, that in any area in which restriction regarding private practice would be a hardship for the community a relaxation of this rule could be permitted.

49. The independent medical practitioners complain further that members of the Provincial Medical Services are permitted to engage in private practice. They believe that this grievance could be satisfactorily removed by the employment at hospitals of honorary staff (or part-time paid staff) in place of a number of those members of the Provincial Medical Services engaged in the clinical work of the institutions. It was suggested that it would be advisable for the honoraries to receive a stipend for their work. The right of officials to engage in private practice is a burning question in India, and it was represented to me that the suggestions made would go far to appease those who take the strongest exception to the present arrangements.

50. The opinion was also expressed that all who hold paid teaching posts in the medical schools and colleges should have their right to practise restricted in the same way as that suggested in the case of civil surgeons, thus leaving them free to devote more of their time to the discharge of their official duties.

51. It was expected that any alteration in the terms of employment of Government medical officers would apply only to new entrants.

52. The practicability of these suggestions was questioned in other quarters. It was said that the conversion of these officers into whole-time officers debarred from private practice would inflict real hardship on the public. Government service, it is maintained, attracts the best graduates because it offers excellent prospects and conditions of service, and private practice is allowed only in so far as it does not interfere with official duties. The officers are subject to frequent transfers and are normally unable to work up a large private practice. Those who took this view considered that the suggestions made in the foregoing paragraphs for part-time public work would result in the admission to institutional services of practitioners less well qualified and would not remove the grievance of subsidized employment.

(3) Government Medical Services and the Independent Medical Profession

53. Government medical officers hold at the moment many of the medical appointments in India which offer some of the most attractive fields of medical work. As civil surgeons they have charge of the District Civil Hos-

pitals, where they may specialize in any particular branch of medical work in which they may be interested, whilst in other fields, such as public health or research, there are corresponding opportunities for specialization and initiative. Thus, there is an incentive to secure higher medical qualifications and post-graduate experience, and it is said that without such incentive the Indian medical man would remain content with the qualifications and experience he can obtain in India. The independent medical profession believes that, while at present this may be true, the necessary incentive would be provided by the adoption of a different method of appointment to the attractive posts which are at present held by Government officers, both European and Indian. The growth of medical education in the medical colleges in India is ensuring, it is said, a sufficient number of graduates for appointment as honorary officers in all the important divisional or district hospitals, and if the posts in question were thrown open to competition amongst the profession in India the incentive to betterment of qualification and experience would be as great as, if not greater than, it is at present. It is recognized that such a change would interfere with the present arrangements for providing medical attendance upon Europeans, and that it would be necessary for some other system to be adopted by the Government to provide such attendance. It is not suggested that such a sweeping change could be effected at once, but it is submitted that it would be well worth while to staff a few district hospitals with honoraries (or part-time paid officers), and the necessary resident medical officers as house-physicians and house-surgeons. In order that the administrative work of the hospital might be carried out efficiently by such a system it was agreed that it would probably be essential to make one whole-time appointment, whilst other duties which are at present carried out by the civil surgeons would have to be apportioned amongst the members of the profession.

54. Caste and religious considerations play an important part in the selection for Government medical services in the Provinces, and consequently there are many members of the Indian medical profession who are disappointed at being passed over for one reason or another and yet are anxious to obtain hospital appointments, honorary or paid. Opportunity to obtain such posts is greater in the large Presidency towns or in those Provinces where medical education is most advanced. For example, in Calcutta, Bombay, and to a lesser extent in Madras, there are many honorary appointments which are, or may be, held by the independent medical profession. The independent medical profession believes that, if these opportunities were extended to other parts of India, to the district hospitals as well as to the Government institutions attached to medical schools and colleges, it would go a long way towards satisfying the clamant desire of the medical profession in India, and would at the same time result in benefit to the community.

(4) The Hospital Problem

55. The majority of the hospitals and dispensaries in India are maintained out of public funds and are regarded as free institutions, no charge whatsoever being made to the public for treatment. Rural dispensaries are organized by District Boards, whilst town dispensaries are organized by municipalities, Provincial Governments being responsible for District Civil Hospitals making up deficiencies as far as their finances allow in rural and urban areas. In the majority of these hospitals and dispensaries the independent medical profession has no place on the staff.

56. The Provincial Governments are responsible for the teaching hospitals associated with the medical colleges, with the exception of Lucknow, where the King George's Medical College and its associated hospitals are run by the University which receives a grant from the United Provinces Government. The Provincial Governments also support or give grants to those medical schools and associated hospitals not entirely financed by Government.

57. As domiciliary medical attendance amongst the major portion of the community is relatively small, the important part played by these agencies in ministering to the medical needs of the community will be appreciated. There is no almoner system, and little or no attempt is made to ascertain whether those people who seek treatment are deserving of the charity for which they ask. The middle classes flock in large numbers to these dispensaries and hospitals, thus avoiding legitimate medical expense, and it is claimed that, as a consequence of this, the poorer people who really cannot afford to pay for private treatment are frequently turned away for want of accommodation. Enormous numbers of patients, the majority of whom are unable through extreme poverty to pay the fees of a private practitioner, are dealt with each day, and it is difficult to see how any but the most cursory treatment can be administered with the present staff available. For example, in one municipal dispensary I visited, which was under the charge of a sub-assistant surgeon, as many as 300 patients were being dealt with daily in a morning of four hours. Undoubtedly many hospitals and dispensaries are insufficiently staffed and insufficient inquiry is made in many instances into the question of the patient's ability to contribute towards the cost of treatment. The independent medical practitioner feels that he has a most legitimate grievance in this respect and more especially is this so in regard to what obtains at the teaching hospitals.

58. In several hospitals there are a number of private and family wards, the need for the latter arising out of the prevailing custom for a sick member to be accompanied to the hospital by his immediate family circle. Very moderate charges are made for the private and family wards, and in many of the hospitals beyond a small maintenance charge no fees for professional attendance are allowed, in others a scale of charges has been drawn up, the fees paid being shared between the hospital and the members of the staff concerned. The scale of

charges for the private and family wards might certainly be reviewed, but here again much of the abuse is due to the lack of an adequate almoner system.

59. In some of the larger Government teaching hospitals a system of honorary staffing has been in force for some years—for example, in the Government Hospitals in Calcutta. On the other hand, in some instances—for example, the Mayo Hospital attached to the Government Medical College in Lahore—there are no honorary appointments. The independent medical profession complain that they have no opportunity of being associated in any way with the work of the hospital, with the result that their work suffers through lack of contact with their colleagues and from insufficient acquaintance with modern methods of medical treatment. There are still some teaching hospitals where the resident medical posts, such as house-surgeon and house-physician, are held by assistant surgeons with several years' experience. It is said that, while this may ease the work of the senior members of the staff of the hospital, it robs the young medical graduates of the opportunity of gaining valuable experience as a preliminary to private or other practice and is more costly to the hospital.

60. Medical practitioners in many parts of India complained bitterly to me that once their patients crossed the threshold of a hospital they never saw or heard of them again. They represent that there is little or no contact between the staff of the hospital and the independent medical practitioner outside. Unless the Government of India and the Provincial Governments are prepared to establish a complete medical service within the reach of all it must remain with the independent medical profession to satisfy in great part the medical needs of the community, and the independent medical practitioner feels that he should not be dissociated from institutional work if this object is to be achieved. The private medical practitioner considers that it is of paramount importance that the disciples of scientific medicine should have the means extended whereby they can keep abreast of the times and become acquainted with the modern advances in medical knowledge. They believe that the only way in which this can be achieved is by admitting them as an integral part of the medical staff of the hospitals and larger dispensaries.

61. They recognize that for administrative and disciplinary reasons certain whole-time appointments are necessary, but they think that the further development of the honorary (or part-time paid) system would greatly improve the existing state of affairs in many parts of India to-day. The honorary system of staffing was advocated by many practitioners, but the part-time paid system was generally believed to be more equitable to those who have to carry out medical work for which the Governments have made themselves responsible. The principle is the same as that to which the Association has given approval in this country.

62. The hospitals in India suffer from the lack of adequate nursing personnel, and there is probably not a single hospital which can boast of a nursing staff sufficient for its requirements. The custom of the country has prevented Indian women generally from adopting nursing as a profession, and the needs of the hospitals in this respect have been met as far as possible by the services of European, Anglo-Indian, and Indian Christian women. Now that purdah is diminishing it may be that the pressing needs of the hospitals will be relieved by a number of Indian women of differing religious beliefs adopting nursing as a profession.

(5) The Problem of the Rural Area

63. The greatest difficulty is being experienced in inducing medical men to practise in rural areas. These areas, which constitute the real India, are practically without any suitable or adequate medical attention, whilst the profession is markedly overcrowded in the cities, in some instances to the point of starvation. Provincial Governments, Municipalities, and District Boards provide rural hospitals and dispensaries so far as their finances will permit, but the greatest difficulty is to get any grade of qualified practitioner to live in the rural areas. The pay offered is of course very small indeed, about Rs. 70-100 per month, whilst in some areas it is even lower still. In a few of the more wealthy provinces the system of granting a subsidy to a medical practitioner (graduate or licentiate) is being tried out, the doctor being posted to a certain district and given opportunities for private practice in the surrounding villages. But here again, the subsidy is insufficient to induce practitioners to forsake the town, even although in the latter they are almost starving. It must not be forgotten that there are no social amenities in the rural areas, that sanitation is a thing unknown, and that adequate housing accommodation is not available. The question is not solely one of finance, and it is difficult to suggest a solution of the problem.

64. The claim was put forward in Hyderabad (Deccan), and indeed in other quarters, that it would probably be better to train a still further inferior grade of medical man, giving him a three years' course in order that he may learn the first principles of scientific medicine before being sent into the rural areas to relieve the urgent need for medical care amongst vast sections of the community within the State. Such a first-aid man would, of course, act under the general supervision of an assistant surgeon and civil surgeon. Considering the areas which have to be covered supervision would of necessity be very perfunctory. Many persons, on the other hand, thought that the suggestion was a retrograde one, for in course of time the lower grade practitioner would undoubtedly swell the ranks of the already overcrowded profession in the towns and increase the competition with which the graduate has to contend from the inadequately trained, the quack, and the charlatan. They considered that if the people of India were taught to appreciate the value of scientific medicine and to place less reliance upon their indigenous systems,

a sufficient supply of adequately trained medical men and women would be available. It was agreed that any lowering of the standard or a continuance of the existing low standard must militate against the achievement of this object.

(6) Medical Education

65. Although I had neither the time nor the opportunity to investigate the various systems of medical education in India, a few comments on what I observed may not be out of place and will enable the Council to appreciate the bearing which medical education has on the whole problem I was sent out to investigate.

(*a*) The Graduate Class

Medical Colleges

66. The Medical Colleges in Bombay, Calcutta, Madras, Lahore, Lucknow, and Patna provide the training which is necessary for qualification as a graduate. The degrees granted by these Colleges are now recognized by the General Medical Council. I cannot speak with any authority on the standard of education or the quality of the teaching, but it is quite evident that great improvements have been effected within comparatively recent years, especially in regard to equipment and to the teaching of midwifery. The method of appointment to the teaching staffs of these colleges, except in so far as the reserved posts are concerned, varies in different parts of the country. In Lahore appointments are made by the Povincial Government after consultation with the Inspector-General of Civil Hospitals, the Governor having the power to veto; in Madras by means of a Public Service Commission after consultation with the Surgeon-General; in Calcutta by a Special Appointments Board set up by the Governor; whilst in Lucknow there is a Selection Committee composed of the Vice-Chancellor, the Dean, the Inspector-General of Civil Hospitals, two representatives of the Medical College staff elected by the Academic Council, and two nominees of the Executive Council of the University. In this particular centre the posts are advertised, and applications are invited from other Provinces.

67. In some Provinces no honoraries are attached to the hospitals associated with the Medical College, whilst in others they constitute the major portion of the staff. For example, in Lahore members of the medical staff of the hospitals associated with the College, with the exception of a number of paid junior short-term assistants, belong to the I.M.S. and the Provincial Medical Services, whereas in Calcutta, in the medical college and its associated hospitals, there are ninety-two honoraries, twenty-one non-service members who receive a stipend for their work, twenty-one members of the Bengal Medical Service, and four I.M.S. Officers.

68. In many parts of India there is a language and community selection for entrants to the Medical Colleges. For example, in Patna, where about forty students are admitted yearly, there is community selection from among the Bengalis, Biharis, Mohammedans, and Hindus, a certain quota of students being selected from each.

(*b*) The Licentiate Class

Medical Schools

69. There are many more medical schools than colleges throughout India, and in some of these schools the standard of education is deplorably low and the equipment totally inadequate. The student receives no training whatsoever in biology in either the pre- or post-matriculation stage; he may undergo a four years' course in a school where the standard of training and the level of teaching are markedly inferior to that in the medical colleges, whilst his clinical instruction may be conducted in a hospital where the equipment is very meagre and where the sanitary arrangements are extremely primitive.

70. Some of these medical schools are run by private enterprise, political or religious pressure being brought to bear in order to permit of their recognition as a training school. Not only is the standard of the preliminary education frequently low, but the class from which the students are drawn often makes them totally unfit to take their place as medical men unless they act under the supervision and jurisdiction of a superior medical officer.

71. Multiplication of schools, as has been the tendency in some parts of India, is undesirable, for it has resulted in a number of inadequately equipped and insufficiently staffed schools. It is essential that medical schools and/or colleges should be situated in big cities where there are large hospitals, a wealth of clinical material, and ample opportunities for providing equipment and able staffing, thus ensuring good clinical and practical experience for the students.

72. It is an undisputed fact that the licentiate class has in the past served a very useful purpose. Sufficient graduates were not available to supply the needs of the population, and valuable aid was given to the officers of the Indian Medical Service, who would have been unable to carry on the work of the Service had it not been for the assistance they obtained from this particular class of practitioner. But a change has come over the situation within recent years. The sub-assistant surgeon is no longer content to work under the jurisdiction of someone else. He practises on his own in town or city where he is not subject to supervision by a superior medical officer.

73. The general consensus of medical opinion in India is that the time has come for the establishment of one uniform standard of medical education throughout India. The contention that the four years' course of the licentiate should be extended to five years is not sufficient in itself. The preliminary standard of education must be raised, and the standard of equipment and training in the medical schools and colleges vastly improved, whilst a number of schools should be closed down altogether. It is esential that every medical

man practising scientific medicine should have had an adequate preliminary education and be fully trained and qualified in order to combat the activities of those who practise indigenous systems of medicine.

74. The tea estates of Assam employ large numbers of sub-assistant surgeons who work under the authority and jurisdiction of the planter doctor, who is almost invariably recruited outside India. These licentiates are attached to the smaller hospitals scattered all over the tea estates, and the planter doctors are very satisfied with the work which is undertaken under their own supervision. They expressed the opinion that the tea associations would find it very difficult to pay the increased salary which the more highly qualified medical practitioner would demand.

75. The Government College in Madras alone allows licentiates to take the graduate qualification without going through the full curriculum, and the restriction imposed by the other schools is resented by those licentiates who are anxious to improve their status by obtaining higher qualifications both in their own country and elsewhere. Objection to the action of the authorities in Madras in this connexion is taken by the All-India Medical Council.

(*c*) Post-Graduate Instruction

76. The opportunities for post-graduate study in India are almost non-existent. There is great need for organized post-graduate courses so that practitioners of all ranks may obtain the necessary instruction and experience to enable them to keep abreast of modern methods of diagnosis and treatment.

(*d*) Schools for Study of Indigenous Systems

77. There are also schools supported by the various Provincial Governments where various systems of indigenous medicine are taught. Perhaps the largest school of this description is at Benares. I regret, however, that I did not obtain particulars of the curriculum adopted in this and similar institutions, nor had I any opportunity to visit any particular school.

78. These systems have all the weight and authority of established religion. In some Provinces funds which might be usefully expended on scientific medicine are being diverted for the establishment of dispensaries following the indigenous systems and for the establishment of schools for the teaching of indigenous systems.

(7) Pharmacy and Drug Control

79. The profession in India is disturbed by the fact that there is no organized or self-contained profession of pharmacy, and that there is no proper measure of drug control.

The Practice of Pharmacy

80. There is a lack of adequately qualified men among those who take up the profession of pharmacy, and there is an absence of any restrictive laws preventing the practice of pharmacy by unqualified persons. The training of the pharmacist requires to be improved so as to enable him to discharge in full measure the responsibilities attached to his profession. The Drugs Inquiry Committee, which issued its Report in 1931, suggested a suitable curriculum for adoption in India, which involves a training for two years, but, in addition to a recognised curriculum and training, restrictive laws are required so as to control the exercise of the profession. The qualified pharmacist should be protected from the charlatan. So far in India no Act dealing with pharmacy is on the Statute Book. It is true that there is an Indian Poisons Act, the Opium Act, and the Dangerous Drugs Acts; but they only partially control the manufacture, sale, possession, and import of certain drugs; they have no relation to the practice of pharmacy. They do not in any way ensure that the persons selling or keeping open shops for retailing, dispensing, or compounding of poisons and narcotics shall possess an adequate knowledge of their business. In a few Provinces chemists' shops are obliged to employ qualified compounders for compounding, dispensing, and selling drugs under the Provincial Municipal Acts, but in most of the Provinces there are no restrictions whatsoever.

Control of Drugs

81. No attempt is made to control the quality of the drugs sold, with the result that the market in India is flooded with drugs and preparations of impure quality and defective strength, and such products as sera and vaccines are freely sold without ever having been tested as to their quality. It is a well-known fact that firms in other countries manufacture cheap and inferior quality drugs especially for the Indian market, with the result that local producers follow suit. In some parts of India at the present moment anyone can compound and sell medicines. It was represented that legislation to improve this state of affairs is badly needed and should apply to the whole of India.

(8) Vaccination and Certification

82. A year or two ago the Government of India, in view of the requirements of certain foreign Governments, issued an order that all persons proceeding over-sees via Bombay should provide themselves with a certificate of vaccination or re-vaccination. The order included a regulation that such certificates, if not issued by a civil surgeon, a port health officer, or a municipal medical officer of health, must be countersigned by one of these officers. This involved the countersignature of vaccination certificates issued by private medical practitioners, and great resentment was expressed amongst the medical profession in India, particularly in Assam. The main contention of the private practitioner is that, in practice, the person who has to countersign the certificate does not verify that the vaccination was efficiently performed, because in most instances the certificates are sent by post, often to destinations sixty to eighty miles distant, either

by the patient or by the private doctor, and that the certificates are countersigned without the civil surgeon or other authorized officer seeing the patient. He maintains, therefore, that the countersignature is worthless. The Council was impressed by the representations made by the Indian Branches, and is still pursuing the matter with the India Office. It should be appreciated that vaccination is frequently carried out by vaccination officers who have to be specially trained, but who have no medical qualification whatsoever. The profession in India considers that vaccination should be undertaken by a duly qualified medical practitioner, and in theory this would appear to be desirable. It must not be forgotten, however, that there are large tracts of country where there is no medical practitioner within reach of the populace, and that if there were no lay public vaccinators, there would probably be very little vaccination performed. This does not affect, however, the objection of the medical profession to the countersignature of their own vaccination certificates.*

83. A similar complaint is made regarding the necessity for the countersignature by a civil surgeon of certificates of unfitness for work issued in respect of Government servants. It is one of the duties of the civil surgeon to sign such certificates, and it frequently happens that the person requiring the certificate is under the care of an independent medical practitioner, who furnishes the certificate of incapacity. The Head of the Department may require this certificate to be countersigned by the civil surgeon before it is accepted. This means that the civil surgeon automatically countersigns the certificate in some instances and refuses to countersign in others where he has doubts as to the bona fides of the certifier.

84. Great resentment was expressed in regard to the system of countersigning. Although it was recognized that there may be instances in which an authority would have cause to doubt the bona fides of the person issuing the certificate, it was considered that the only way to prevent abuse of this nature would be for an example to be made of those who issue false certificates by lodging a complaint with the Medical Councils of the various Provinces concerned. On the other hand, if there was any doubt as to the probability of disciplinary action being taken, it was considered that it would be far better for these sick certificates required by the Government servant to be provided by Government medical officers authorized for the purpose.

III. MEDICAL ORGANIZATIONS IN INDIA

85. There are in India three important medical organizations, the Indian Medical Association, the All-India Licentiates' Medical Association, and the British Medical Association. There are, in addition, a number of local medical associations and clinical societies in various centres as well as one or two smaller organizations which it is unnecessary to mention specifically.

The Indian Medical Association

86. This is an Association with about sixty branches and a membership of about 2,000. It was formed in 1928, and is mainly a medico-political body. Many of the local associations are affiliated to the I.M.A. The annual subscription is 18s. per annum. It is composed in the main of the independent medical profession, and draws the major portion of its membership from the Indian graduate class. An attempt is being made to amalgamate this Association with the Licentiates' Association, but so far without success.

87. The I.M.A. was formed because of the opposition that existed to the B.M.A. in India, the plea being put forward that the B.M.A. is concerned only with conditions of service and recruitment in the Indian Medical Service, and that it has done nothing whatsoever in India to advance the interests of the independent medical practitioner. The strongest exception is taken to the representations which the B.M.A. has made from time to time in regard to the Indian Medical Service, and this is especially apparent in connexion with the last evidence submitted to the Joint Select Committee in October, 1933. Those who were in Bombay during the Round-the-World Tour will remember that the President of the Bombay Branch of the British Medical Association attacked the Association, not so much because of the evidence itself, but chiefly because the Association had not seen fit to obtain the views of the Indian Branches prior to the representations being made. In this connexion, however, it should be appreciated that the views of the Bombay Branch were forwarded by the B.M.A. to the Joint Select Committee at a subsequent date.

88. The chief causes of complaint by the I.M.A. against the B.M.A. are:

(*a*) The Association's attitude in regard to the need for European medical attendance upon Europeans in Government Service in India.

(*b*) The Association's repeatedly expressed view that the Indian Medical Service on its civil side should be continued.

89. The majority of the members of the I.M.A. wish to abolish the civil side of the I.M.S. There are the more moderately minded who do not desire to go to that length, but who wish to see greater opportunities given to Indians in the civil side of the I.M.S.; the discontinuance of the practice of earmarking posts for European members of the I.M.S.; and free and open selection for the teaching and professional posts at the universities.

90. The work of the I.M.A. is mainly, if not solely, medico-political, although the affiliated medical associations carry on clinical activities in their particular locali-

* Since this report was written the Government of India, in consequence of the large number of protests received from all classes of the medical profession in India, has decided to limit the requirements concerning countersignature to passengers proceeding to East or South African Ports or Iraq, and to certain pilgrims.

ties. There is an Annual Meeting of the I.M.A., and its affairs are conducted by a Council. The resolutions which are passed by the Annual Conference do not receive prior consideration in the localities as obtains under the constitution of the B.M.A. The resolutions are mainly those sponsored by the Council of the I.M.A. to which approval is given at the Annual Conference without any previous discussion of them amongst the members in the various centres. The belief prevalent amongst the members in the various Branches of this organization is that the B.M A. can do nothing for them, and that therefore it is not in their interests to belongs to it; far better, they contend, to have an organization of their own.

All-India Licentiates' Medical Association

91. This is a body the membership of which consists of those who hold the licentiate qualification. I attended the Annual Meeting of this body which was held in Agra. Its membership is about 3,000, but when it is realized that the total number of this class is roughly 30,000, it will be appreciated that they have a large field of recruitment for their organization.

92. One of the chief grievances expressed by members of this organization is that, although their qualifications are recognized by the Provincial Medical Councils, they are not recognized by the All-India Medical Council. They wish to extend the medical curriculum for their qualification from four to five years. In short, the main object of this organization is to improve the education and position of the licentiate class so that it may be on the same footing as the graduate class.

The British Medical Association

93. At the time of my departure the membership of the Association in India was about 1,500. There were then eight Branches in India (exclusive of Burma), namely, Assam, Baluchistan, Bombay, Calcutta, Hyderabad, Punjab, South India and Madras, and United Provinces, some of which had been functioning for only a few years. During my visit a desire was expressed for a Branch at Sind, in Delhi, in the North-West Frontier, in the Central Provinces, and in Bihar, and steps have been taken to form Branches in these areas.

94. Most of the Indian Branches meet very seldom and then only to hear a clinical paper read, or to have a discussion upon some scientific subject. The Hyderabad, South Indian and Madras, Calcutta, and United Provinces Branches have concerned themselves with professional subjects, clinical demonstrations, and discussions. The reason for this becomes apparent when it is appreciated that the management of Branch affairs is usually in the hands of Service Officers, who, being military officers, have avoided discussion of Service matters. Of recent years Bombay has been a little more active and has, through its Branch Council, taken some interest in medico-political problems, and, to a minor degree, so has the Punjab Branch. Especial mention must, however, be made of the Assam Branch, which is composed almost entirely of European doctors employed on tea estates. The Assam Branch is a very live organization and concerns itself with matters clinical, ethical, and medico-political. It is the negotiating body with the Tea Planters' Association and with the Government, and through its instrumentality many measures for the improvement of the health and welfare of the workers on the tea estates have been promoted. It has three Divisions, two of which are very active, and it holds an Annual Meeting which is very well attended. I myself had the pleasure of attending the Annual Meeting of the Branch in February of this year at Mariani, and some of the men had come over 500 miles in order to be present at the meeting. The keenest interest is displayed in the Association's activities both central and local.

95. In most of the other Branches, however, very little is being done, and, indeed, in some instances, the Secretary expressed surprise that the Association could engage in medico-political work. In other Branches it is not difficult to appreciate why discussions of medico-political subjects never take place, when it is realized how strong is the Service element. Junior members of the Provincial Medical Services are naturally somewhat diffident about bringing forward anything for discussion which would in any way appear to criticize their seniors in the Service. There is one Branch in India where the senior I.M.S. Officer of the area automatically becomes the President of the Branch, nominates the Branch Secretary and all the members of the Branch Council. I did my best to arrange that such a state of affairs should not continue, and I was assured by the Secretary before I left India that the next election of the Branch Council will be by popular vote of the members.

Eligibility for Membership in India

96. A Branch over-seas, by the adoption of a special rule, may admit to membership a medical practitioner who does not hold a degree registrable in the United Kingdom, but who is entitled by the law of his country to practise in his own land. This enables any Branch in India, if it so desires, to admit the licentiate class to membership of the British Medical Association. In the Bombay, Punjab, Calcutta, and United Provinces Branches such a rule has been adopted, and licentiates are admitted to membership, whereas no such rule was in operation in the other Branches in India at the time of my visit.

97. The amount of the Association's subscription is, however, more than most of the licentiate class can afford. No local efforts have been made to recruit for the Association in the areas of the different Branches in India, nor has any endeavour been made (except in Assam) to assist the Branch organization by the formation of Divisions. Many members reside hundreds of miles from the centre of the Branch activities, and have no opportunity whatsoever of attending any of the meetings.

Meeting of Representatives in Bombay

98. Arrangements were made for a meeting of representatives of the Branches I had visited to be held at Bombay after I had completed my tour, and two days before I left Bombay this meeting was held, at which there were eight representatives, two from Bombay, two from the Punjab, one from Assam, one from Hyderabad, one from Madras, and one from the United Provinces. Calcutta unfortunately found it impossible, at the last moment, to send a representative, although it had agreed to send two. The meeting was called in order that there might be a discussion as to the means whereby the Association could be developed further in India.

Eligibility for Membership

99. The meeting first gave consideration to the question of eligibility for membership. It was unanimously agreed that medical men and women registered in the United Kingdom or in the Provincial Medical Registers should be eligible for membership of the Association in India, and that where there is no Provincial Medical Register—for example Hyderabad State—graduates and licentiates should be eligible.

Appointment of Part-time Secretary for India

100. The meeting next considered how the work of all the Indian Branches could be developed and co-ordinated. All those present were emphatic in their belief that this could best be achieved by a part-time paid Secretary. A full-time Secretary was preferred, but the meeting realized that financially such a proposition might not find favour with the Council. It was estimated that the cost of a part-time establishment would be approximately £400 per annum. Although this figure may appear low, and my personal view is that it is, it must not be forgotten that, generally speaking, remuneration of Indian medical men is appreciably lower than that to which we are accustomed in this country. A part-time secretary receiving Rs. 300-350 per month would be considered as being comfortably off. The meeting expressed the view that a Secretary would be able to stimulate interest in the various Branch Councils, and that through his agency the views of the various Branches could be collected and co-ordinated. He would also be able to promote action in connexion with the many medical problems with which the profession will be confronted in the future. Bombay was chosen as the best centre for the Secretary in view of the fact that at the moment the best organized Branch in India (with the exception of Assam) is probably Bombay, and that the Secretary would get a good deal of help and guidance from the members of the Bombay Branch Council, and especially from Dr. Yodh, the Honorary Secretary. In the light of experience the location of the central office of the Association in India would come under review in a year or two.

101. Consideration was then given in greater detail to the financial aspects of such a proposition. Few of the Branches are spending the full 6s. capitation allowance from the parent Association, and the opinion of the meeting was that the Branches would be prepared to forgo 2s. of the capitation fee to assist in defraying the current expenses of the Central Office in India. If any particular Branch found it difficult to carry on, application to the Head Office for a supplementary grant would have to be made, and some of the smaller Branches might be compelled to do this, otherwise their activities might have to be curtailed. A number of Branches have considerable surpluses, and an appeal for help in the maintenance of the secretariat by voluntary contributions might not go unanswered. The meeting considered that, if the B.M.A. is to progress in India, the Central Council should set up a Secretariat in India without delay, and it urged the Council to give the matter immediate serious consideration.

Formation of Divisions

102. I impressed upon the meeting the need for further development of the local machinery, and pointed out the desirability of forming Divisions within the area of the Branches. With the exception of Assam there are no Divisions in the Indian Branches. Meetings of the Branches are held at large centres, and thus only those who live within easy reach of such towns have any opportunity of attending the meetings. The areas of all the Branches are so wide that members have to travel several hundred miles to attend a meeting, and a determination was expressed that efforts should be made to promote the establishment of Divisions in those centres where there are sufficient members to warrant it.

Annual Representative Meeting in India

103. The meeting then expressed the view that there should be an annual representative meeting held in different centres throughout the country, at least one representative from each Branch to attend such meeting, the railway fares of representatives being a charge on the funds of the Branch. The representatives from the Punjab Branch issued an invitation for the next annual representative meeting of the Indian Branches to be held at Lahore. The great difficulty is that of finance, as railway travelling in India is not cheap, and the distances to be traversed are very great, but the interchange of views which took place at the meeting at Bombay made it evident to me that it would be desirable for the representatives of the various Branches to meet at least once a year to discuss problems which are common to them all.

Resolutions Passed

104. The representative meeting held in Bombay passed the following resolutions:

That medical men and women registered in the United Kingdom or in the Provincial Medical Registers

should be eligible for the membership of the Association in India. Where there is no Provincial Register, graduates and licentiates should be eligible.

That a central office in charge of a part-time Secretary in a place like the Punjab, Delhi, or Bombay, which would co-ordinate the work of all the Indian Branches was necessary.

That there should be an annual representative meeting of the Indian Branches at different centres in India. Each Branch should send at least one representative, return first-class fare being met from the funds of the Branch.

That this meeting believes that the Branches would be prepared to forgo a part of the capitation grant (two shillings per head) for the current expenses of the Central Office. If there is a deficit in any Branch as a result of this, it may apply to the Head Office for assistance. Those Branches that have a surplus fund lying with them may be requested by the Head Office to help in the maintenance of this Secretariat by voluntary contributions.

That in the opinion of this meeting Branches should be encouraged to form as many Divisions as possible in their areas.

IV. CONCLUSION

105. This report has been submitted by me to the Central Council of the Association, together with some suggestions and opinions on the future of the medical profession and the Association in India. Before the Council proceeds further, I would recommend that the Council should obtain the views of the Branches in India and of other persons and organizations interested in the subject upon the description of the present state of medical services and medical organization in India and the account of the grievances of the profession as they are set out in this report. When these views are received, the Council can then consider them carefully, together with this report, and the suggestions and opinions which I have already submitted to it.

G. C. ANDERSON.

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MEDICAL ASSOCIATIONS, SOCIETIES Etc.

BRITISH MEDICAL ASSOCIATION

Section of Surgery

Prof. P. T. Crymble, the President, was in the chair at a meeting of this session when a discussion on Obstructions of the Common Bile-Duct was opened by Prof. E. R. Flint (Leeds). He said that obstructions of the common bile-duct may be partial or complete with jaundice, but that jaundice does not necessarily imply common duct obstruction. Partial obstruction, on the other hand, may give rise to no ordinary clinical signs, but only to an increase in the plasma bilirubin which can be detected by the van den Bergh test. This obstruction might be either intra or extrahepatic. Prof. Flint considered that the more common are: stone and its complications, pressure on duct from without by simple or malignant pancreatic lesions, spasm of the sphincter of Oddi. The problem of diagnosis was not great, stone in the common duct, carcinoma of the head of the pancreas and chronic pancreatitis each having their distinctive features. In atypical cases any one of the clinical signs or symptoms might be interchanged between the diseases, making the diagnosis difficult. It was difficult also to determine whether the origin of jaundice was intra- or extra-hepatic; mechanical obstruction and cholangitis could produce similar liver changes. A painless jaundice with bile in the duodenum suggested an intrahepatic lesion; such a jaundice was distinctly yellow and without much itching. The marked retention of tetra-iodophenophthalein injected suggests an intrahepatic lesion. It seemed inevitable that if operation was suggested for all cases of suspected obstructive jaundice some unnecessary operations would be performed. On the other hand, some patients would be relieved by the finding of a stone where malignant disease had been suspected. Of pancreatic obstructions to the duct 20 per cent. would prove to be simple. The effect of obstruction was to produce dilatation of the duct; it became bluish, and the bile in it is dark and inspissated in obstructions from without. In stone the duct was thick, pinkish yellow, and contained thin yellow or muddy fæcal-odoured bile. In 5 per cent. of cases there would be found "white bile," the signal of a serious hepatic injury. In the liver the injury would vary from mild central necrosis to acute atrophy; the best guide to serious damage was the serum bilirubin. Patients with lesions of the liver tended to have a prolonged coagulation time and to bleed. The blood-urea rose, bile salts disappeared from the blood and urine, casts and albumin appeared in the urine, and the patient vomited altered blood. Ascites and splenic enlargement might result from the fibrosis, and a stone in the ampulla might cause back pressure on the pancreas with all its effects. Work done at the Mayo Clinic had shown the presence of anæmia and anoxæmia of the stagnant type with an effect on metabolism which might well be the reason for the success of glucose therapy.

Operation should be carried out in these patients in one to two weeks from the onset of symptoms; this gave ample time for the essential pre-operative preparation which consisted in providing water, salt, sugar, and blood to rectify as far as possible the disturbances produced by the disease. Water, salt, and sugar would be given by the intravenous drip method. The water balance must be watched and if necessary, a blood transfusion given to provide protein. Apart from this the benefits of a blood transfusion were to raise the peripheral blood pressure, diminish post-operative bleeding, replace lost blood, and raise the hæmoglobin content, and therefore the oxygen-carrying power of the blood. The transfusion was best given by the drip method. Calcium was useful, as apart from its effect on bleeding it had a beneficial action on the liver. In operating the best practice was to do as little as possible; the duct should be decompressed slowly with a syringe and needle, cleaned, and, after dilatation of the ampulla, drained externally with a T tube. The common duct should be opened if the duct is dilated, altered in colour, thickened, or if the pancreas is hard or gritty. Prof. Flint said that the anæsthetic of choice is spinal, the fall in blood pressure being countered by Icarol, and sufficient gas and oxygen to keep the breathing fairly deep. Spinal anæsthesia gives complete relaxation, and has no toxic action on the liver or kidneys. Post-operative treatment should be on the lines of pre-operation routine. After the operation 10 per cent. CO_2 in oxygen should be given until the patient takes 4 or 5 deep breaths, every quarter of an hour for 24 hours. The results in operations carried out using this technique have shown in Prof. Flint's experience a mortality of 4·7 per cent. in 84 cases of stone in the common duct.

Mr. Howard Stevenson (Belfast) endorsed many of Prof. Flint's remarks. He emphasised particularly external drainage of the common duct and dilatation of the ampulla by weighted gum elastic probes in preference to metal sounds.

Mr. G. Gordon-Taylor (London) declared himself in complete agreement with the opening remarks. He deplored the growing tendency to explore the common duct as a supplement to cholecystectomy, alleging that it is performed in 40 per cent. of cases of this kind. He favoured the external method of drainage with T tube. He spoke of the bacteriology of the bile mud; the Welch bacillus was the cause of death in 2 cases known to him. He advocated the use of Cylotropin and pre-operative irradiation of the splenic area to diminish bleeding in these cases. In conclusion he expressed the feeling that

more courage was required in treating malignant disease of the common duct regions.

Prof. A. H. Burgess (Manchester) endorsed Mr. Gordon Taylor's view that choledochotomy was too frequently performed. In a normal pancreas the common bile-duct, he said, is easily palpable in its whole extent. Spinal anæsthesia seemed, he thought, to be followed too frequently by chest complications to be recommended in these cases.

Mr. N. C. Lake (London) strongly favoured spinal anæsthesia; complications could be prevented by the use of CO_2 as described by Prof. Flint. He said the discussion had prompted him to the view that the gall-bladder might be the focus of infection in some cases of arthritis.

Prof. C. F. M Saint (Capetown) said he found Murphy's button useful in cholecystenterostomy in promoting hæmostasis.

The President described a case of obstruction of the ampulla due to an adenoma in which local excision gave a good result.

Section of Obstetrics and Gynæcology

Prof. C. G. Lowry (Belfast), the President took the chair at a meeting of this section when a paper on the clinical value of PRONTOSIL AND SIMILAR COMPOUNDS IN THE TREATMENT OF PUERPERAL INFECTIONS was read by Mr. G. F. Gibberd (London). His cases were those admitted to the isolation block of Queen Charlotte's Hospital in 1936-37, and he compared their progress with that of similar cases admitted in 1934-35. Prontosil and Streptocide (sulphanilamide) had both been used since the beginning of 1936. Prontosil had been given intramuscularly in doses of 0·5 to 1·5 gramme or 20—60 c.cm. and orally in doses of 2—4 grs. or 6—12 tablets daily. Maximum doses had been given to severely ill patients, and a few had developed cyanosis, but the treatment had been continued without untoward effect. Analysis showed that the gross mortality in the 1934-35 group was 20 per cent. whereas in the 1936-37 group it was only 4·5. The virulence of the hæmolytic streptococcus depend on its invasiveness, and it should be noted that the infection was limited to the birth canal in 47 per cent. of the 1934-35 cases, and in 66 per cent. of the 1936-37 cases. The difference must have been due either to diminished virulence in the streptococcus during 1936-37, or to the new treatment given. The mortality rate in proven septicæmia (excluding general peritonitis) was 40 per cent. in patients who did not receive the new drugs and 20 per cent. in those who did. The incidence of septicæmia before admission did not greatly differ in the two groups, and this was evidence that there was no considerable difference in the invasiveness or virulence of the prevalent streptococcus in the two periods. In non-fatal cases where an actual inflammatory mass had been demonstrated outside the limits of the birth canal, the illness had been decidedly shortened since the use of prontosil, and Mr. Gibberd regarded this the most convincing piece of direct evidence that it was beneficial. The improvement in the mortality-rate was associated with a greater tendency to resolution of the disease once a widespread invasion of tissues had occurred. There was every reason to continue to employ the new remedies until their value or otherwise was more firmly established.

* * *

Mr. V. B. Green-Armytage (London) spoke on the obstetrical and gynæcological importance of HYSTEROSALPINGOGRAPHY and its advantages over simple insufflation. Insufflation did not provide information about both tubes or about the site of tubal occlusion or other abnormalities in the Mullerian tract, and treatment and prognosis depended on accurate knowledge. An important question arose as to the condition of the tubes after peritonitis due to appendicitis, either before or after marriage, and after an extra-uterine pregnancy when the extravasated blood might have blocked both tubes. The state of the tubes after salpingitis due to any cause should be investigated if the patient wished to know about the possibilities of pregnancy. Salpingography could not lie and he had had no regrettable results. In a series of 300 cases of sterility he had found that in 40 per cent. blocked tubes were responsible. The injection of up to 20 c.cm. of Lipiodol was done in the consulting room and no anæsthetic was given. It was important that the lipiodol should be at body temperature. The patient was radiographed ten minutes afterwards and walked out. If Mr. Green-Armytage found the fimbrial end blocked he operated and pregnancy had followed in 20 per cent. of his cases. If the block was at the cornu it was worth implanting the tubes in the uterine wall. He always did a salpingography after operation to prove the patency of the tubes; the psychological effect for a woman of knowing there was no reason why she should not become pregnant was very important.

Dr. Solomons said he agreed with Mr. Green-Armytage's views. He himself used Ethytol and had had no accidents except mild irritation of the peritoneum in one case. He always took a second radiogram ten minutes after the first, by which time any apparent blockage due to spasm would have disappeared.

Prof. Chassar Moir asked whether there had been any untoward symptoms. He thought he had seen what looked like the shadow of lipiodol in the pelvic veins in one of the radiograms shown by Mr. Green-Armytage.

The President said he had occasionally seen collapse after the injection of lipiodol. He regarded acute appendicitis as an important cause of sterility.

Mr. Green-Armytage, in reply, said he thought the type of instrument with apertures at the sides might cause collapse from sudden distension of the cervical canal. He used one with a distal aperture. In over 800 salpingographies he had given an anæsthetic (Evipan) only twice. He performed it 5—7 days after a period. The patient, being conscious, could complain of any pain felt, and this might be helpful. The pain was never acute, and there had been no case of oil or air embolism.

(*Lancet*, August 21, 1937, pages 445—448).

MEDICAL NOTES AND NEWS

ADVANCE UNANI IN BENGAL

A Press Note says:—

The Hon. Minister in charge of Public Health and Local Self-Government in the Government of Bengal met some leading Hakims and persons interested in the Unani system of medicine on 30th September last, in his office at Calcutta. The conference unanimously recommended to Government the establishment of a Unani Council and State Faculty, on the distinct understanding that Government would not have to accept any financial liability on this score and have, a set of Statutes drawn up for the purpose, in consultation with a Committee of Hakims.

The conference accepted the principle that the Unani Council and State Faculty should be financed like the Ayurvedic Council and State Faculty, entirely from non-Governmental sources.

UNANI AND AYURVEDIC PRACTITIONERS TO GET RECOGNITION?

The assurance that the Government definitely adhered to the policy of encouraging and developing the indigenous systems of medicine was given by Mr. A. B. Lathe, Finance Minister, opening the Maternity Department and the new building of the Seth Tarachand Ramnath Free Ayurvedic Hospital at Poona on the 17th October last.

Mr. Lathe said that so far, the difficulty had been to find out whom to recognise as a qualified Ayurvedic or Unani practitioner. The Government were framing a bill which was well on its way, in which he hoped to give the Ayurvedic and Unani practitioners a definite status similar to that of the Allopathic doctors. He hoped that the adoption of this policy would put new heart into their endeavours.

Mr. Lathe referred to infant mortality and spoke at length on the importance of maternity homes as part of a bigger scheme of Public Health and national well-being.—A. P.

BRITISH MINISTER'S PLANS ON HEALTH INSURANCE EXTENSION

The Minister of Health, London, Sir Kingsley Wood, spoke in London on October 14, on the jubilee of National Health Insurance which, he said, had become a successful and essential part of the British social system.

The number of insured persons, he added, now exceeded 180,000,000 and the value of benefits disbursed since the beginning of the scheme was no less than £600,000,000. During 25 years the magnitude of its operations had steadily increased, and a recent valuation revealed a net disposal surplus of £200,000,000.

Sir Kingsley Wood paid a tribute to Mr. Lloyd George, as "the parent" of the national health insurance scheme, and went on to speak further of the extensions that Government had in view. As soon as Parliament met he proposed to introduce a Bill making medical benefit available to young persons immediately they left school and entered insurable employment, thus filling the gap between school and medical insurance under the Insurance Acts.

National insurance, together with the services provided by the local authorities and great voluntary organisations in Great Britain, had made a provision for sickness which was unsurpassed in any other country, said the Minister.—*British Official Wireless.*

STANDARD BIOLOGICAL PRODUCTS

With a view to safeguarding public health and keeping the standard at a high level of the manufacture of biological products which is done on a large scale in Bengal the Minister in charge of Public Health and Local Self-Government held a conference of prominent Indian manufacturers, who have agreed to give the fullest facility for the examination of samples

by the Government Test House. The manufacturers will pay the fees to cover the cost of examination at a rate prescribed by the Government. It was further agreed that a conference of technical experts should be convened by the Director of Public Health at an early date to examine details with regard to production and test relating to biological products.—A.P.I.

MINISTERS OF PUBLIC HEALTH

Dr, Rajan, Minister for Public Health, Madras proposes to convene a conference of Public Health Ministers of other provinces for the purpose of exchanging views on major questions concerning Medical and Public Health Departments with a view to evolving a uniform policy. The idea is to hold the conference at Madras during the Christmas holidays. Dr. Rajan has been in correspondence with the Ministers concerned of other provinces, and already Bombay, Central Provinces and Bihar have answered in the affirmative.—A. P. I.

BOMBAY MEDICAL COUNCIL

For the first time since its inception in 1912, the Bombay Medical Council is to have a woman member. Dr. (Mrs.) Cecilia D'Monte, formerly Chief Medical Officer of the Cama and the Motlibai Hospitals, is, it is understood, one of the members nominated by Government on the Council.

Of the five other nominated members, Government have chosen Major S. L. Bhatia, Dean of the Grant Medical College, Dr. Rajabally V. Patel, who has been a member of the Council since 1912, Dr. Phiroz Bharucha, a consultant practising in Bombay for about 25 years, and honorary lecturer in medicine, G. S. Medical College, and Dr. Champaklal Ghia, a member of the Bombay Legislative Assembly and medical practitioner of Surat.

FEES AT BOMBAY DISPENSARIES FOR THE WELL-TO-DO

Some interesting sidelights are revealed in the new set of rules that the Government of Bombay have framed for the levy of fees in Government and State-aided dispensaries in the Bombay Presidency.

In future a "well-to-do" person, under these rules, is a person who receives a total annual income of Rs. 2,000 or more, or one who pays annually Rs. 400 or more as land revenue. As "well-to-do" people, they and the members of their families will not in future be entitled to treatment in the out-patient departments, except in cases of emergency, when, however, it will cost them Re. 1 for each attendance.

Prescriptions made up for "well-to-do" persons treated by private arrangement with medical officers will be compounded on payment.

Out-patients other than those whose monthly incomes do not exceed Rs. 40 in Bombay City or Rs. 30 in the mofussil and certain exempted classes will be charged a fee of one anna per head per attendance at Government dispensaries.

In-patients whose monthly incomes are above Rs. 40 in Bombay City and Rs. 30 in the mofussil or those who are dependent on people of these classes will be accorded treatment and given diet free of charge. All others if circumstances allow, will be permitted to make their own arrangements for diet in lieu of paying diet charges.

Owners of mines, quarries, mills, factories, tea, coffee and rubber estates, railways, railway-workshops and employers of domestic servants who wish to obtain admission to hospitals for employees drawing not more than Rs. 40 a month in Bombay City or Rs. 30 elsewhere will have to pay 8 annas a day for each such patient.

Charges for private wards will vary from Re. 1 to Rs. 5, according to the accommodation and means of a person. Special fees in addition will be charged in the case of "well-to-do" persons other than Government servants, for the performance of certain surgical operations.

ABOLITION OF L. M. P. COURSE

A proposal is under the active consideration of the Government for the abolition of the L. M. P. course and of the Medical Schools at Madras and Vellore, with effect from the 1st April, 1938.

The Government's intention is to have one class of medical men. At present, Sub-Assistant Surgeons

occupy an inferior position, and, as it is found not possible to give them better status for their qualification, training and equipment, it is proposed to do away with their cadre altogether.

Though the medical schools as such would disappear, it is contemplated that, in their place, Medical Colleges should rise. The Ministry of Public Health has taken the view that this could be accomplished with little or no extra expenditure on buildings.

Students who are already taking their courses will be allowed to complete them.

The Government, it is understood, have directed that further recruitment should cease, pending final orders on the scheme for the reorganisation of the Medical Service.

THE INTERNATIONAL CONGRESS OF OBSTETRICS AND GYNÆCOLOGY

The Congress will be organized from 4th May till 8th May, 1938, at Amsterdam. Her Majesty the Queen of the Netherlands has been graciously pleased to assume the patronage of the Congress.

The proceedings of the Congress have been fixed as follows:

The morning meetings will be held for the purpose of discussing three main subjects, *viz.*:

(I) Eclampsia, (II) Thrombosis and Embolism and (III) Hormones.

Reports on these subjects have been invited, and the following doctors have accepted the invitation.

I

Pathogeny—Dr. E. Klaften, Vienna.

Treatment—Dr. H. Vignes, Paris; Prof. B. Stroganoff, Leningrad.

Eclampsia, from a geographical point of view—Prof. K. De Snoo, Utrecht; Prof. R. Remmelts, Batavia.

II

Diagnosis and Symptomatology—Prof. E. Alfieri, Milano.

Ætiology—Prof. D. Dougal, Manchester.

Prevention and Treatment—Prof. E. Wichman, Helsinki.

III

Historical Review—Prof. G. Wanger, Berlin; Prof. C. Kaufmann, Berlin.

Lectures about latest research work—Prof. C. Hartman, Baltimore; Prof. L. Brouha, Liege.

At the afternoon meetings short lectures will be given on various subjects by well-known gynæcologists. Papers for the unoccupied time are invited, though, in view of the limited space of time, the Board cannot definitely promise acceptance.

President—Prof. Dr. A. H. M. J. Van Rooy.

Secretary—Dr. F. C. Van Tongeren.

MEDICAL RESEARCH IN AUSTRALIA

Prof. Frederic Wood Jones, Professor of Anatomy at the University of Melbourne, takes rather a pessimistic view of the problem of medical research in Australia. Professor Jones has been a member of the staffs of universities in Europe, America and Australia, and subsequent to the preparation of his report he resigned his chair in Melbourne to take up a similar position at the University of Manchester, England. As a reason for this action he stated that the opportunity for research work is too restricted in Australia, greater opportunities being given in overseas countries. Professor Jones is one of the most prominent figures in Australian academic medicine. A brilliant orator, a forceful writer and an original thinker, he will be a serious loss to medical education in Australia. He considers that the best research workers are being lost to Australia through lack of suitable prospects of academic research. The best type of research worker is he who from his student days is set in his idea of becoming a research worker, a man to whom the lures of successful practice mean nothing but who is determined on investigation for its

own sake. Australia is losing men of this type in a small but continuous stream. One of the difficulties in Australia is that the routine teaching and administrative duties that have to be undertaken by the staff of the medical schools is so pressing that, with the best will in the world, it is in many cases impossible for research work of any real importance or any real continuity to be carried out. The demands made on the occupant of a chair for doing work outside his teaching routine are mainly those of solving problems for medical men practising in the State, and in answering innumerable letters seeking information about all sorts of matters usually unrelated to the professional sphere of the recipient.

Research of national importance must have two prerequisites. The first is co-ordination of effort, and the second is directorship. Professor Jones doubted whether, in the absence of co-ordinated team work, it was wise to endow with large sums of money the prosecution of such studies as cancer research in Australia. Close co-ordination between the medical biologist, the chemist and the physicist within a single research institute is almost essential if a successful attack is to be made on the problem of malignancy. It would be one of the miracles in the history of medical science if the solution of the problems should be revealed to any isolated investigator no matter how great his scientific attainments or how ample the funds at his disposal. Until team work is better organized than it is to-day in Australia it would be wise to give preference to the "individual" type of investigation in the allocation of research grants. Meanwhile, every effort should be made to create conditions that would make well-co-ordinated team work a possibility in the Australian medical schools. Another handicap to medical research in Australia is the lack of trained technical assistants. The present meagre finance devoted to the teaching departments of medical schools does not permit of proper advancement to those who take on this type of work as a life occupation. In conclusion, Professor Jones considers that it is a waste of money to attempt to create a research worker to deal with a specific problem, but it is always a wise investment to place the real research worker in a position of comparative freedom from urgent financial problems. (*Jour. A. M. A.*, August 28, 1937, pages 724-725).

BOOK REVIEWS

A TEXT-BOOK OF MEDICAL JURISPRUDENCE AND TOXICOLOGY—By Rai Bahadur J. P. Modi, L.R.C.P. (Edin.), L.R.F.P.S. (Glasgow), fifth edition, published by Butterworth & Co. (India), Ltd.

Size—Double Crown Octavo and Pages 824 + cx.

This work is, in our opinion, unquestionably one of the best if not the best of its kind published in India and we congratulate the author for bringing out this revised, enlarged and up-to-date edition.

Every medico-legal question has been carefully and thoroughly discussed in all its bearings. Attempts have also been successfully made to clear every point of difficulty or ambiguity that may arise in course of the trial of a criminal case.

The book is amply illustrated by a very large number of photographic representations and case-notes mostly from Indian cases collected by the author himself during his long service as a medical jurist in various parts of India. In the compilation of this work he has fully utilised his unique experience and profound knowledge—both theoretical and practical—gathered as a medical jurist and as a teacher of Medical Jurisprudence.

Nothing has been inadvertently left out or carelessly brushed aside which a medical student or a practitioner may need during the course of his study or practice. The book will also be greatly appreciated by the members of the legal profession especially those who deal in criminal law.

We would, however, draw the attention of the author to the subject of "Ossification and union of bones" as a sign or factor for determining the age of an individual. The chart inserted in the book is based on the result of observations made on Europeans but this does not hold good is case of Indians. Hepworth in the Punjab and Galstaun in Calcutta found that both the appearance of centres of ossification and the union of bones occur much earlier in India among Indians. We shall be glad to see the result of their observations incorporated in the next edition of this excellent book as this will greatly enhance its value.

H. N. Bakshi.

"PROGNOSIS." Volume II. London. The Lancet, Ltd.

Size—Demy Octavo and Pages 420+xx.

The book contains the reprints of 58 articles published in the *Lancet* between 1934 and 1936. The articles have come out from the pens of specialists and experts on the various subjects. Often it is the prognosis of a case that forms the most important enquiry of the anxious relatives of a patient but prognosis of any disease is a difficult thing to foretell and requires amongst other things a long experience. The articles are mainly based upon the experiences of the able writers and contain details which are not to be found in any one text book.

It would have been better if the articles on purely medical and purely surgical conditions were incorporated in separate volumes. It is unfortunate for the first word of the title of the first article to be a printing mistake.

J. Ghosh.

A TREATISE ON HYGIENE AND PUBLIC HEALTH—By Dr. B. N. Ghosh, F.R.F.P.S. & S. (Glasgow); Eighth Edition; Calcutta, published by Scientific Publishing Co.

Size—Demy Octavo and Pages 660+xvi.

The book has gone through eight editions since 1912 and hardly needs any introduction to the readers. It is not only popular amongst students but also serves as a useful book of reference for any body interested in Public Health. The size of the book has been kept handy, yet it contains all the useful and up-to-date knowledge in Hygiene and Public Health.

In the introductory chapter the author has narrated the present position of preventive medicine and tried to impress its growing importance. Genetics and Eugenics which are receiving so much attention nowadays, could have been given more detailed consideration. The book is moderately priced.

M. U. Ahmad.

ERRATUM

October, 1937 issue, page 7, 1st column, after the 2nd line

$$\textit{instead of } \frac{\frac{Z}{Y}}{X} \times 100 \qquad \textit{read } \frac{Z}{X} \times 100$$